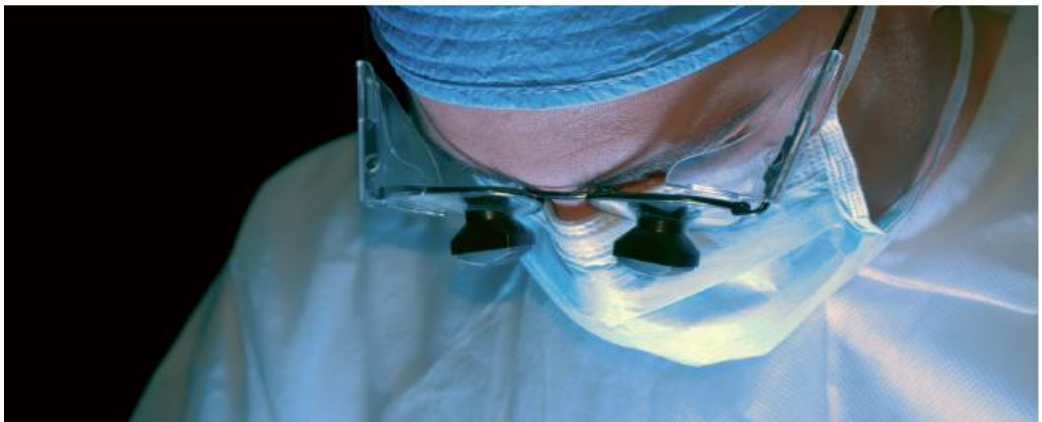
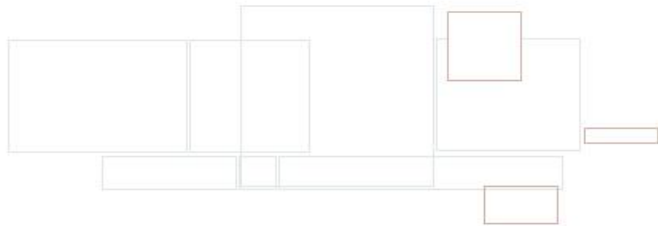




ΠΑΝΕΠΙΣΤΗΜΙΟ
ΠΑΤΡΩΝ
UNIVERSITY OF PATRAS

UNIVERSITY OF PATRAS
SCHOOL OF MEDICINE

<http://www.med.upatras.gr>



**MEDICAL CURRICULUM
&
STUDY GUIDE**

MEDICAL CURRICULUM & STUDY GUIDE

Under the Chairmanship of Professor Dimitrios Goumenos

Dear student,

The English version of the Medical Curriculum and Study Guide of the University of Patras that you are holding has been updated for the academic year 2018-19 and this is its eighth edition. It is addressed to foreign students who often visit our Medical School through exchange programs and to those students whose mother tongue is not Greek. We hope that it will be an important help to your medical education that is about to begin, in a modern and innovative medical school.

*The authors of the current guide consist of the Rector of University of Patras Professor **Venetsana Kyriazopoulou**, the Head of the School of Medicine Professor **Dimitrios Goumenos**, the Coordinator of the Quality Assurance Committee Professor **Constantinos Stathopoulos** and the School's Secretary **Evangelia Michalopoulou**.*

*The version is updated from the secretariat of Medical School **Elisabeth Skliva and Evangelia Michalopoulou**.*

The Study Guide Committee

TABLE OF CONTENTS

PART ONE	1
ADMINISTRATION	2
THE UNIVERSITY	2
THE SCHOOL OF HEALTH SCIENCES	4
THE SCHOOL OF MEDICINE	4
REGISTRATIONS	9
FIRST YEAR REGISTRATION	10
CURRICULUM GUIDELINES	12
TEACHING	12
ATTENDANCE - EXAMINATIONS	12
GRADUATION – CALCULATION OF THE DIPLOMA DEGREE	13
FOREIGN LANGUAGES	13
GRADUATION PROCEDURE	13
DATES OF COURSES AND EXAMINATIONS	14
HOLIDAYS	14
HEALTHCARE AND INSURANCE	Σφάλμα! Δεν έχει οριστεί σελιδοδείκτης.
STUDENT IDENTIFICATION CARD	14
ACCOMODATION	14
CATERING FACILITIES	15
UNIVERSITY SPORTS CENTER	15
STUDENTS ASSOCIATION	16
SCHOLARSHIPS – AWARDS – LOANS	16
ERASMUS EXCHANGE PROGRAM	18
MEMORANDUM WITH JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE	19
LIBRARY AND INFORMATION SERVICE	19
LIBRARY OF THE FACULTY OF MEDICINE	20
THE EUDOXUS PLATFORM	21
PART TWO	21
EDUCATIONAL OBJECTIVES	22
STUDIES CONTENT	23
CURRICULUM	23
DIVISION OF BASIC MEDICAL SCIENCES I	38
DEPARTMENT OF BIOCHEMISTRY	38
DEPARTMENT OF GENERAL BIOLOGY	72
DEPARTMENT OF MEDICAL PHYSICS	92
DIVISION OF BASIC MEDICAL SCIENCES II	110
DEPARTMENT OF ANATOMY	110
DEPARTMENT OF PHYSIOLOGY	81
DEPARTMENT OF GENERAL PHARMACOLOGY	88
DIVISION OF CLINICAL LABORATORIES	93

DEPARTMENT OF RADIOLOGY	ΣΦΑΛΜΑ! ΔΕΝ ΕΧΕΙ ΟΡΙΣΤΕΙ ΣΕΛΙΔΟΔΕΙΚΤΗΣ.	3
DEPARTMENT OF MICROBIOLOGY		95
DEPARTMENT OF PATHOLOGY		98
DEPARTMENT OF HYGIENE		103
DEPARTMENT OF NUCLEAR MEDICINE		105
DIVISION OF INTERNAL MEDICINE I		2876
DEPARTMENT OF INTERNAL MEDICINE		2876
DIVISION OF HAEMATOLOGY		111
DIVISION OF INFECTIOUS DISEASES		112
DIVISION OF PULMONARY MEDICINE		112
DIVISION OF CARDIOLOGY		113
DIVISION OF RHEUMATOLOGY		113
DIVISION OF GASTROENTEROLOGY		114
DIVISION OF NEPHROLOGY		115
DIVISION OF ONCOLOGY		115
DIVISION OF ENDOCRINOLOGY, DIABETES AND METABOLISM		115
DIVISION OF INTERNAL MEDICINE II		117
DEPARTMENT OF NEUROLOGY		117
DEPARTMENT OF PSYCHIATRY		118
DEPARTMENT OF DERMATOLOGY		119
DIVISION OF SURGERY		120
DEPARTMENT OF SURGERY		120
DEPARTMENT OF ANAESTHESIOLOGY AND INTENSIVE CARE		125
DEPARTMENT OF OPHTHALMOLOGY		126
DEPARTMENT OF UROLOGY		130
DEPARTMENT OF NEUROSURGERY		134
DEPARTMENT OF OTORHINOLARYNGOLOGY		136
DEPARTMENT OF ORTHOPAEDICS		139
DEPARTMENT OF CARDIOTHORACIC SURGERY		143
DEPARTMENT OF VASCULAR SURGERY		146
DIVISION OF PAEDIATRICS, OBSTETRICS & GYNAECOLOGY		147
DEPARTMENT OF PEDIATRICS		147
DEPARTMENT OF OBSTETRICS & GYNAECOLOGY		151
DEPARTMENT OF PAEDIATRIC SURGERY		156
INTEGRATED STUDY MODULES - PART I		157
INTEGRATED STUDY MODULES - PART II		163
PART THREE		190
POSTGRADUATE STUDIES		191
OPEN E-CLASS PLATFORM		193
LABORATORY TRAINING REGULATIONS		194
QUALITY ASSURANCE		195
MEDICAL STUDENTS' SCIENTIFIC ASSOCIATIONS		196
HONORARY DOCTORATES		199
STATISTICAL DATA OF MEDICAL SCHOOL		201
ESTABLISHED CLINICS AND LABORATORIES		202

PART ONE



ADMINISTRATION

THE UNIVERSITY

The University of Patras was established in November 11th, 1964 as a self-administered academic institution under the supervision of the Greek Government. The opening ceremony took place in November 30th, 1966. It is located in the city of Patras and the emblem of the university is St. Andrew.

ADMINISTRATION The University Administration bodies according to law 4009/2011 (Structure, Function, Ensuring the quality of studies and Internalization of Higher Education) as this is modified by the laws 4025/2011, 4076/2012 and 4115/2013, as well as the current regulatory practice of the Senate (ΣΥΝ 476/8-3-2012, ΦΕΚ 1141/10-4-2012 Issue Β') is a) **the Rector** assisted by three **Deputy Rectors**, and c) **the Senate**.

Rectorate Authorities The Rectorate Authorities of the University of Patras for the period 2010-2014 are:

Rector

Venetsana Kyriazopoulou, Professor, School of Medicine

Vice Rector of Academic and International Affairs

Nikolaos Karamanos, Professor, Department of Chemistry

Vice Rector of Economics Planning & Projects Implementation

Christos Bouras, Professor, Department of Computer Engineering and Informatics

Vice Rector of Research and Development

Demosthenes Polyzos, Professor, Department of Mechanical Engineering and Aeronautics

Vice Rector of Students' care and Infrastructures, Energy and sustainability

George Angelopoulos, Professor, Department of Chemical Engineering

Senate

According to the current statutory framework the Senate consists of:

- The Rector,
 - The Deans of the Schools,
 - The Chairperson of the Departments maximum two of each School with a two-year Term non-renewable, with switching of the Schools and for as long as there are Departments left. The representation of the Chairperson is determined by the Rector,
 - An undergraduate students' representative,
 - A postgraduate students' representative,
 - A PhD students' representative,
- Who are all elected for an annual term with no possibility of re-election,
- One representative of each category of personnel with no possibility of re-

election,

Who are elected within a single ballot by universal suffrage of the members of each category and participate voting, when the discussed issues concern their category of personnel.

The exact composition and the number of the members of the Senate with the right of vote, as well as the conditions and issues concerning the above, are foreseen in the Organization and the Operating Rules of the University.

The Deputy Rectors and the secretary of the Institution may attend the meetings of the Senate with no voting right.

SCHOOLS

The University consists of Schools that cover departments and units of related scientific fields. Each School supervises and coordinates the operation of the Departments. The Departments are divided into divisions. The authorities of the School are the Dean, the Deanery and the General Assembly. The authorities of a Department are the Chairman and the General Assembly of the Department. If there are already established divisions, the directors and the general assembly of the division are also included in the authorities of the department.

The Schools of the University of Patras, by order of founding are: the School of Natural Sciences, the School of Engineering, the School of Health Sciences, the School of Humanities and Social Sciences and the School of Business Administration.

Each School is divided into Departments as follows:

SCHOOL OF NATURAL SCIENCES

Department of Biology
Department of Geology
Department of Mathematics
Department of Physics
Department of Chemistry
Department of Material Science

SCHOOL OF ENGINEERING

Department of Environmental and Natural Resources Management
Department of Electrical and Computer Engineering
Department of Computer Engineering and informatics
Department of Mechanical Engineering and Aeronautics
Department of Civil Engineering
Department of Chemical Engineering
Department of Architecture

SCHOOL OF HEALTH SCIENCES

Faculty of Medicine (School of Medicine)
Department of Pharmacy

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Department of Early Childhood Education
Department of Primary Education
Department of Theatre Studies
Department of Philology
Department of Philosophy

SCHOOL OF BUSINESS ADMINISTRATION

Department of Economics
Department of Business Administration
Department of Business Administration of Food and Agricultural Enterprises

2014-2019 DEANS OF SCHOOLS

<i>Dean of School of Natural Sciences</i>	Papatheodorou Georgios, ProfessorKonstantinos Koutsikopoulos Department of GeologyProfessor, Department of Biology
<i>Dean of School of Engineering</i>	Mataras Dimitrios, ProfessorOdysseas Koufopavlou Department of Chemical EngineeringProfessor, Department of Electrical and Computer Engineering
<i>Dean of School of Health Sciences</i>	Dimitrios Kardamakis Professor, Department of Medicine
<i>Dean of School of Humanities and Social Sciences</i>	Komis Vassilis, Professor, Dept. of Early Childhood Education Vasileios Komis Professor, Department of Educational Sciences and Early Childhood Education
<i>Dean of School of Business Administration</i>	Basilis Boutsinas, Professor, Dept. of Business AdministrationDimitrios Skouras Professor, Dept. of Economics
Director of the General Directorate of Administration and Financial Services	Charalambos Rodopoulos

THE SCHOOL OF HEALTH SCIENCES

The Faculty of Medicine was established at the 22th of July in 1977 and was renamed to School of Health Sciences in 1983. The School consists of the Faculty of Medicine and the Department of Pharmacy.

The Authorities of the School are the General Assembly, the Deanery and the Dean.

- General Assembly of the School consists of the members of the General Assemblies of the Departments of the School.
- The Deanery consists of the Dean, the Chairperson of the Departments and a student's representative from each Department.
- The Dean: (i) Convenes the General Assembly of the School and the Deanery, compiles the agenda and presides over the tasks of the Assembly (ii) coordinates the mutual courses of the Departments, (iii) presides over the services of the Deanery, (iv) insures that the decisions of the Assembly are put through, (v) convenes committees for the study and processing of various issues.

THE FACULTY OF MEDICINE (SCHOOL OF MEDICINE)

The Authorities of the Faculty are the Director of the Division, the Assembly of the Division, the General Assembly and the Chairman.

General Assembly

The General Assembly of the Faculty consists of the Teaching Staff, representatives of Special Teaching Staff, Special Laboratory Technical Staff and students representatives (one undergraduate and one postgraduate student).

If the teaching staff has more than 40 members, only 30 representatives participate in the assembly. These representatives are distributed at the division according to the total number of teaching staff of each division. The representatives of the teaching staff are elected for an annual term in proportion to the total number of the members of each rank in a secret ballot. All the members of the teaching staff participate in the election.

The Department's Chairman and the Directors of the divisions also participate in the General Assembly regardless of whether they have been elected as representatives of the teaching staff or not. Thus, the total number of teaching staff participating in the meetings may exceed 30 members.

The participation of these extra members in the assembly does not affect the distribution of the representatives among the teaching ranks and the divisions.

Chairman of the Department

The Department's chairman is elected by a special group of electors composed of all the members of the teaching staff of the corresponding Department.

The General Assembly has all the responsibilities of the Department provided by law, except those conferred on other authorities.

Four regular meetings are called per year. Special meetings may also be convened by the chairman of the Department for issues of election or promotion and matters that arise. Finally, special meetings for specific reasons can be requested by at least 1/3 of the members of the General Assembly.

Head of Secretariat Evangelia Michalopoulou/Elisabeth Skliva
2610-9691048 michalopouloueskliwa@med.upatras.gr

Administration Staff

SECRETARIAT OF FACULTY OF MEDICINE:
secretary@med.upatras.gr

For Undergraduate students matters:

E. Katsaiti
2610-969103 katsat@upatras.gr

P. Psarra
2610-969169 tpsara@upatras.gr

For Postgraduate students matters:

V. Korbaki
2610 969106 korvan@upatras.gr

P. Psarra
2610-969169 tpsara@upatras.gr

S. Rapti
2610-969114 rapti@med.upatras.gr

E. Skliva
2610-969108 eskliva@upatras.gr

P. Psarra
2610-969169 tpsara@upatras.gr

For Faculty matters:

M. Arvaniti
2610969102 marvan@upatras.gr

E. Kateli
2610 969101 kateli@upatras.gr

S. Rapti
2610-969114 rapti@med.upatras.gr

E. Skliva
2610-969108 - eskliva@upatras.gr

The Secretariat service is available for students every **Monday, Tuesday and Thursday 10.00 - 12.00 and every Wednesday 12.00-14.00** Written requests for certificates and other documents must be submitted in person or by a legally authorized representative. Since the academic year 2003-04 the secretariat works with a computer system and records the students' data digitally.

The Secretariat of the Faculty is located in the University Campus, in the ground floor of the Preclinical Research Building. The laboratories of the Basic Medical Sciences are also located in the same building. The rest of the clinics and laboratories are located in the building A' of "Clinical Functions" and in the University Hospital in Rio. The Library and Auditoriums (AI1, AI2, AI3 and AI4) of the Faculty are located next to the Preclinical Research Building.

BASIC MEDICAL SCIENCES I	
Laboratories	<ol style="list-style-type: none"> 1. Biological Chemistry 2. General Biology 3. Medical Physics
BASIC MEDICAL SCIENCES II	
Laboratories	<ol style="list-style-type: none"> 1. Anatomy 2. Physiology 3. General Pharmacology
CLINICAL LABORATORIES	
Laboratories	<ol style="list-style-type: none"> 1. Radiology 2. Microbiology 3. Pathology 4. Public Health 5. Nuclear Medicine
INTERNAL MEDICINE I	
Clinics	<ol style="list-style-type: none"> 1. Internal Medicine 2. Cardiology 3. Nephrology
INTERNAL MEDICINE II	
Clinics	<ol style="list-style-type: none"> 1. Neurology 2. Psychiatry 3. Dermatology

SURGERY	
Clinics	<ol style="list-style-type: none"> 1. Cardiothoracic Surgery 2. Surgery 3. Anaesthesiology and Intensive Care 4. Ophthalmology 5. Urology 6. Neurosurgery 7. Otorhinolaryngology 8. Orthopaedics 9. Vascular Surgery
PAEDIATRICS, OBSTETRICS, GYNAECOLOGY	
Clinics	<ol style="list-style-type: none"> 1. Paediatric Surgery 2. Paediatrics 3. Obstetrics-Gynaecology

LABORATORIES	TEL.	FAX
Biological Chemistry	2610 969.870	2610 969.167
General Biology	2610 996.170	2610 997.689
Medical Physics	2610 997.620	2610 992.496
Anatomy	2610 992.391	2610 997.886
Physiology	2610 969.155	2610 997.215
General Pharmacology	2610 997.638	2610 994.720
Radiology	2610 993.987	2610 993.987
Microbiology	2610 999.453	2610 994.922
Pathology	2610 991.810	2610 991.810
Public Health	2610 997.889	2610 996.101
Nuclear Medicine	2610 999.211	2610 999.212

CLINICS	TEL.	FAX
Internal Medicine	2610 999.583	2610 993.982
Neurology	2610 993.949	2610 993.949
Psychiatry	2610 994.534	2610 994.534
Dermatology	2610 999.574	2610 993.951
Surgery	2610 999.299	2610 993.984
Anaesthesiology and Intensive Care	2610 993.947	2610 993.947
Ophthalmology	2610 999.286	2610 993.994
Urology	2610 999.385	2610 993.981
Neurosurgery	2610 999.752	2610 991.521

Otorhinolaryngology	2610 999.264	2610 993.986
Orthopaedics	2610 999.556	2610 994.579
Paediatrics	2610 993.948	2610 994.533
Obstetrics-Gynaecology	2610 999.563	2610 993.854
Cardiothoracic Surgery	2610 999.779	2610 993.984
Paediatric Surgery	2610 993.948	2610 994.533
Vascular Surgery	2610 999.463	2610 993.984

OTHER SERVICES	TEL.	FAX
Secretariat of the Faculty	2610969.102-969108	2610 996.103
Library of the Faculty	2610 994.721	2610 997.873
University Hospital	2610 999.111	
Foreign Languages Teaching Unit	2610 997.370	
Library and Information Service	2610 969.620-3	

REGISTRATIONS

FIRST YEAR REGISTRATION

The names of the first year students accepted by the Faculty of Medicine are announced in public by the Faculty. The registration time and deadline for the students that were accepted in the Faculty is determined by the **Ministry of Education, Research and Religious Affairs**. Registration applications for entrance within the 3% as well as entrance within the special category of people suffering from Severe Medical Conditions , is also determined by the Ministry of Education, Research and Religious Affairs.

- Registration Documents** The new entrances or a legally authorized representative must submit the following documents to the Secretariat of the Faculty:
- Documents required by the Ministry of Education, Research and Religious Affairs following the decisions of entry in the University for the specific academic year
 - Application form
 - Dismissal Title: High School Diploma or Certificate from the High School he graduated or a legally certified copy of these. If the student submits the original Certificate, he or she may withdraw it when an authorized copy is submitted.
 - Transcript of Records.
 - A copy of the candidate's ID (Identity Card) or a Birth Certificate where the male registry is indicated.
 - A Removal Confirmation Form if the candidate was already registered in a different institution during the past academic year.
 - An Affirmation Statement in which the candidate states that he/she is not registered in a different institution of Greek Higher Education.

g) .

h) Two (2) photographs at the size of those used for Identity Cards.

Particularly, candidates within the special category of those suffering from severe medical conditions must also submit:

A Certificate from a qualified Primary Health Committee that certifies their condition after a free of charge examination by a qualified doctor who is also a member of the teaching staff of any Higher Education Institution.

TRANSFERS FROM OTHER SCHOOLS

I. TRANSFERS

Student transfers from another University within the Country are made following decisions from the Ministry of Education, Research and Religious Affairs.

II. SPECIAL REGISTRATIONS

The Faculty of Medicine of the School of Health sciences announces the percentage rates for the entrance of graduates of the higher education institutes to the Faculty of Medicine through specialized examinations for the academic year 2017-2018:

A. 3% of the total entrance number for the graduates of Dentistry of University Education (semester of entrance E').

B. 12% of the total entrance number for:

- graduates of the Schools or Departments of Greek Universities, (semester of entrance B' and semester of entrance D' for graduates of schools of nursing and Pharmacy)

- graduates of Technological Educational Institutions (semester of entrance B').

- graduates of School of Pedagogical and Technological Education (SPETE) (semester of entrance B')

- graduates of the following Higher Schools (semester of entrance B'):

The registration of the graduates of Dentistry in the Faculty will be determined after examination in the courses of **Biology I, Biochemistry I and Biochemistry II**. The entrance of the rest categories of graduates B, C and D, will be determined after examination in the courses of **Biology I, Anatomy I and Biochemistry I**. The examination material is the one taught to the students of the Faculty of Medicine of Patras. This examination material is determined by the Laboratories of Biology (Biology I), Biological Chemistry (Biochemistry I and II) and Anatomy (Anatomy I). The candidates will have to apply to the Faculty's Secretariat for the context of the examination material.

The success ranking is defined by the total score of the examined courses. Only the candidates that have collected a total score of at least thirty (30) units, provided that they have scored at least ten (10) units in each of the three courses are announced in the success rank. The candidates enter the Faculty sorted in a descending order of total score, until they reach the provided percentage.

All the documents required will be submitted to the Secretariat of the Faculty from **1 to 15 of November 2017**, in person or by legally authorized representatives.

These documents include:

A) Application form

B) Certified Copy of the diploma or a certificate that states they have completed their studies. If the diploma degree is not indicated numerically, the candidate will have to submit a transcript of records.

If the candidate has graduated from a foreign University, an equivalent certificate from the National Academic Recognition Information Center must also be submitted.

C) Copy of their Identity Card (ID)

The examinations are conducted during the first 20 days of December 2017, while the schedule will be announced by the General Assembly of the Faculty's at least eight (8) days before the first examination.

CURRICULUM GUIDELINES

TEACHING

The teaching includes lectures, tutorials and exercises, clinical training or laboratory training.

Each semester includes a certain number of “teaching units” (t.u.), as well as ECTS units (European Credit Transfer System Units). One t. u. represents an hour of teaching per week during the semester in the case of an independent course, and one to three weekly teaching hours during the semester for the rest educational work, according to General Assembly of the Faculty. The curriculum includes the minimum number of t. u. required for graduating. The distribution of the courses among the academic semesters is indicative rather than mandatory for the students and responds to conditions of regular attendance, adjusted to the minimum number of semesters required for graduating and to the sequence of prerequisite and connected courses. The required optional courses cover at least the 1/4 of the curriculum.

The General Assembly of the Faculty is responsible for the announcement of the curriculum. The curriculum is revised every year in April. The Chairman of the Faculty convenes a committee that will supervise the curriculum. The committee consists of members of the General Assembly with an annual term and submits recommendations to the General Assembly which follow the recording of the Sectors’ suggestions.

ATTENDANCE - EXAMINATIONS

The academic year runs from September 1 to August 31. The teaching project of each academic year is divided into two semesters. Each semester includes at least 13 complete weeks of teaching and a corresponding number of weeks for the examination.

The Examination time is divided into three Examination periods, Examination period of January, June and September. The Examinations of the Fall Semester begin a week after the completion of the semester’s courses, the duration is three weeks and there is always a week free of exams and courses before the beginning of the Spring Semester’s courses. The Examinations of the Spring Semester begin a week after the completion of the semester’s courses; the duration is three weeks and must be completed before the 1st of July. The Fall Semester begins during the first fifteen days of September and the Spring Semester ends during the last fifteen days of June. The exact dates are determined by the Senate. The senate may allow the extension of the semester by two weeks maximum if it is requested by the General Assembly of the Faculty.

The students have the right to be examined at courses of both semesters during the Examination Period of September. During the Examination Period of June the students can be examined only at courses of the Spring Semesters’ and during the Examination Period of January they can only be examined on courses of the Fall Semesters’. The score of each course is determined by the teacher who has to organize written or oral examinations, or consider projects and laboratory exercises.

The student graduates from the Faculty when he succeeds in the required courses and has gathered the required amount of teaching units. The maximum duration of studies is equal to the number of years referred to in the indicative curriculum of the faculty, plus two years.

GRADUATION – CALCULATION OF THE DIPLOMA DEGREE

Graduating the Faculty of Medicine requires attendance of 12 semesters (six academic years) and a passing score in all courses required by the curriculum.

For the calculation of a student's diploma degree, the score of each course must be multiplied by the corresponding weighting factor and the sum of these products must be divided by the sum of all the weighting factors.

In the case of graduates of other Departments or Schools of the higher education that entered the Faculty by special Examinations, the scores achieved in different schools are not counted in the calculation of the diploma degree. In the case where a course is recognized and the student is exempt from attending and being examined on it, this course will not be counted at all in the calculation of the degree. Additionally, the scores in the courses of foreign language are not counted in the calculation of the diploma degree even though the students must attend and be examined on these courses in order to graduate from the Faculty.

FOREIGN LANGUAGES

The students are free to choose between the following languages that are taught in the University of Patras: English, French, Italian, German and Russian. For any further information the students should apply to the Foreign Languages Teaching Unit.

GRADUATION

The students who have or are about to complete immediately their liabilities according to the above mentioned and wish to participate in the graduation ceremony, **must submit a written application form to the Secretariat of the Faculty at least a month before the scheduled graduation ceremony.** The date of the graduation ceremony is announced by the Secretariat. In order to participate in the graduation ceremony the **students must also submit the following documents to the Secretariat** in time.

DOCUMENTS:

- Application form (*Available by the Secretariat*)
- Two statement forms that state they have returned any lent books signed by the Faculty's Library and the University's Library and information Service respectively.
- Affirmation Statement in which the student states that:
 - a. They haven't get a food card for the current academic year
 - b. They have no liabilities pending against the students' Accommodation
 - c. They have abandoned the University's Health Insurance
- Student's Pass Card
- Student's ID

The Graduation Ceremonies take place after the formal Examination periods of October, April and July.

DATES OF COURSES AND EXAMINATIONS

The academic year begins on the 1st of September and ends on August 31. The Senate determines the initiation and termination dates of the courses and examinations for each academic year.

HOLIDAYS

- National holiday of October 28th (2nd World War Memorial)
- Anniversary of the protests against the regime of the colonels in 1973, November 17th
- St Andrew's day (Patras' Patron Saint), November 30th
- Christmas and New Year's Day, December 24th – January 6th
- Commemoration of the patron saints of education, January 30th
- Shrove Monday (First day of Lent), 41 days before Easter
- National holiday of March 25th (Greek Revolution)
- Easter, Saturday of Lazarus – Sunday of Thomas
- Labor Day, May 1st
- Students' elections day

The students of the 5th and 6th academic year attending clinical training follow the clinics' schedule.

STUDENT IDENTIFICATION CARD

Since 24/09/2012 undergraduate and all-levels postgraduate students are provided with their Student Identification Card (Student ID) after an online application. The new Student ID is resistant to mechanical stress and uses protection against forgery. The Student's ID expires after the minimum duration of the student's studies provided by the Department. It also provides for a reduction of about 25% in fares and tickets for all means of mass transportation. The Student ID will be delivered at the delivery point chosen by the student at their electronic application, free of charge. The new Student's ID state the exact validity period. In case the student is not eligible for the provided reduction in fares and tickets, the Students ID serves only as an identity card.

Additionally, the student has the option to state allergies or their wish to become organ donors. These statements on the application form and on the Student ID are only **optional**. After the printing of the Student card, information about allergies and organ donation statements are deleted from the central information system.

The Departments may use the new Student IDs in order to develop new services and applications for the better service of their students.

The Digital Service for Student Identification Card is provided by the Ministry of Education with the support of the National Research and Technology Network (<http://academicid.minedu.gov.gr>).

ACCOMMODATION

Accommodation support by the University aims to meet the basic living needs of the students, in order for them to complete their studies undistracted. Total Support includes accommodation and meals at a low cost. It also provides the means for the development of educational, spiritual, artistic and sports activities.

Accommodation facilities of the University of Patras are provided only for those who study away from their hometown. The rest of the students are only eligible for the University's Catering Services. Priority is given to students from families of low economic status.

The students that are eligible for accommodation support submit their application every year until June 15. The application form is provided by the Accommodation service at the University Campus.

Information about further documents required is provided with the application. Applications can be made even after the expiry of the deadline but are accepted only if there are vacancies.

20% of the rooms must remain available for the new entries that have to apply for accommodation support within 20 days since the announcement of the examinations' result. The names of those eligible for accommodation are announced right after the selection for the new entries and in August for the rest of the students.

The cost of the accommodation support is determined at the beginning of the academic year by the authorities of the National Institute of Youth. In addition to the charges for accommodation and catering services, the students must also pay the cost of guarantee before their settlement in the accommodation facilities.

The accommodation facilities include 870 single rooms distributed among 8 buildings. The accommodation facilities also include a restaurant with a capacity of 3000 students, snack bars, entertainment rooms, indoor natatorium, theater and libraries.

Small number of students as well as foreign scientists that visit University of Patras through educational exchange programs may be hosted in the accommodation facilities at the suburb (Προάστιο) after an application of the invited professor to the service.

CATERING FACILITIES

Students of low personal or family income are eligible for a free of charge access to the University's catering services. Catering services are provided from September 1 to June 31 and are not available during Christmas and Easter holidays. Unmarried undergraduate students of the University of Patras with no personal income and permanent residence away from the city of Patras are eligible for free of charge access to the University catering service. The annual total income levels required for a free of charge access to the catering service is announced by the administration of the Students' Care. Students are no longer eligible for a free of charge access to the catering services when:

- a) They have completed their studies.
- b) They have passed the maximum time of free access according to law (the minimum time required for the completion of studies plus 2 years).

UNIVERSITY SPORTS CENTER

Students are given the opportunity to register for the use of the University's Sports Center located in the University Campus. The registrations are held on the beginning of the academic year. The students may choose one or more of the following course groups:

- Classic athletics group
- Team sports group (Volleyball, Basketball, soccer)
- Sharpshooting group
- Table tennis group (ping - pong)

- Chess group
- Tennis group
- Swimming group
- Sky and Climbing groups
- Excursion group
- Bicycling group
- Traditional dance group

All students may participate in the championships that are held occasionally. Sports teams may be composed and take part in the Greek Students' Championships. University will provide with free of charge athletic material to students that constantly participate at any of the above course groups.

STUDENTS' ASSOCIATION

The students' association of the Faculty of Medicine of the University of Patras was founded in January 1978. The association runs by a council of seven representatives who are elected annually. All students of the Faculty are registered members of the Students' association which runs according to articles of association approved by the court of Patras. Students' representatives participate in the administrative bodies of the University according to law.

SCHOLARSHIPS – AWARDS – LOANS

I. STATE SCHOLARSHIPS FOUNDATION

Foundation

State Scholarships Foundation (SSF)

Fields of study

General education, Fine Arts, Social and Natural sciences

Conditions

Greek graduates of University education. With no sufficient personal income. Until 40 years old.

Countries

Of Europe. Except U.S.A. and Canada for Natural Sciences.

Awards and scholarships from SSF are provided to undergraduate and postgraduate students every academic year under the following conditions:

- Awards are given in the form of written certificates and money prizes provided once for purchasing scientific literature. Additionally, an award is provided for distinguished graduates who have not exceeded the minimum duration of studies.
- Scholarships are awarded to undergraduate students according firstly to their personal or family income and secondly to their performance, in absolute order of success in the entrance (in the case of first years) or promotion examinations. Undergraduate students should also score an average of at least 6.51 in a scale of 0-10 in the courses provided by the curriculum of the Department in order to receive a scholarship.
- All the details regarding the awards, the number of scholarships to be awarded, the amount of the financial aid, as well as details on the program and other regulations are determined by the authorities of SSF.
- The SSF awards scholarships to the distinguished student of each Master's Program after the end of every year of studies.

II. SCHOLARSHIP ENDOWMENTS, ORGANIZATIONS AND OTHER CARRIERS

Every year, scholarship endowments are awarded to students for undergraduate studies in Greece and postgraduate studies abroad. Additionally,

Greek foundations and institutions, foreign cultural institutions, International organizations, foreign governments also award students with scholarships. Information for the awards of these scholarships is announced in the Faculty during the academic year.

III. INFORMATION ABOUT SCHOLARSHIPS AND OTHER STUDENTS' ISSUES

Students, who wish to have a direct correspondence with foreign universities on matters of scholarships, should contact the corresponding embassies (in order to get the address and other relative information).

Additionally, they may contact the Documentation and Information Unit of ΕΛΚΕΠΑ, (Capodistriou 28, 2nd floor, office 11, tel.: 36 00 411, hours: 8:00 - 14:00).

Some endowments are under the management of the prefectural government.

THE NEW ERASMUS + PROGRAM

The Erasmus Plus, is the new EU funding program for education, training, youth and sport. The new Erasmus+ programme combines all the EU's past schemes including the Lifelong Learning Programme (Erasmus, Leonardo da Vinci, Comenius, Grundtvig), Youth in Action and five international cooperation programmes (Erasmus Mundus, Tempus, Alfa, Edulink and the programme for cooperation with industrialised countries).

The ERASMUS committee of the Faculty of Medicine consists of:

Assoc. Prof. G.. Kagadis, Coordinator – Representative
2610 962345, kagadis@upatras.gr

Prof. D. Karnabatidis Prof. S.N. Liosis, Deputy Coordinator – Representative
2610 2613603693, snliosis@med.upatras.gr

Prof. D. Drainas, ECTS Coordinator
2610 969127, drainas@med.upatras.gr

Prof. N. Georgopoulos, ECTS Coordinator
2610999835, neoklisg@hol.gr

Prof. S.N. Liosis Prof. D. Karnabatidis, ECTS Coordinator
2613603219, karnaby@upatras.gr

Prof. C. Stathopoulos, ECTS Coordinator
2610997932, cstath@med.upatras.gr

Assoc. Prof. P. Davlouros, ECTS Coordinator
2610999583, pdav@med.upatras.gr

Assist. Prof. I. Gliatis, ECTS Coordinator
2610999553, igliat@upatras.gr

Assoc. Prof. S. Kakkos, ECTS Coordinator
2613603406 kakkos@upatras.gr

Assoc. Prof. A. Karatza, ECTS Coordinator

2610999821, karatza@upatras.gr

Assist. Prof. P. Alexopoulos, ECTS Coordinator
2610990559, panos.alexopoulos@upatras.gr

For more information please visit the Erasmus site at
<http://www.upatras.gr/el/erasmus>.

MEMORANDUM OF ACADEMIC COLLABORATION WITH JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

The University of Patras has established a **formal education agreement** with the **Johns Hopkins University School of Medicine** to collaborate on research and student faculty exchanges. The two institutions had officially begun the collaboration on April 11, 2008, when representatives from the University of Patras, visited Johns Hopkins to sign the agreement. Head of the representatives was the Deputy Dean Professor of Cardiothoracic Surgery in the Faculty of Medicine, D. Dougenis. The official presentation of the cooperation in Greece was held on the 15th of October 2008, when Myron L. Weisfeldt, MD., director of the Department of Medicine at Johns Hopkins, visited the University of Patras and the University's Hospital. The day after, in Athens, the cooperation program was presented to the State's authorities as well as to the whole Greek academic community. *"This is a tremendous opportunity for Hopkins to share new ideas with an outstanding institution abroad"*, said Myron L. Weisfeldt, MD., director of the Department of Medicine at Johns Hopkins, who facilitated and developed the areas of collaboration. *"Were expecting a fruitful relationship for Hopkins as well as the University of Patras."* he added.

This cooperation is an important success for University of Patras that was based on the outstanding and internationally approved image of the University, the research, clinical and teaching skills of the members of the Faculty of Medicine, as well as the scientific quality of the health services provided by the University Hospital of Patras. Additionally, the cooperation agreement serves as an important opportunity for the scientific staff and the students to contact with a top University like Johns Hopkins. The cooperation program covers Medicine and related fields of study, Biotechnology, Biomechanics, and is expected to gradually expand on other scientific fields taught in University of Patras.

These are the **targets** of the Cooperation agreement:

- 1.To pursue exchange of teaching and research staff, students and administrative staff, as well as knowledge and experience acquired in research
- 2.To organize shorts visits of teaching staff and other scientific and research staff, for studies, lectures and research
- 3.To promote the exchange of under-graduate medical students, graduate and postgraduate students for short periods, on special agreements to attend courses or training in laboratories of the respective Universities
- 4.To initiate joint research programs in areas of mutual interest. The cooperative research effort will be based on Departments and Schools

currently functioning in the University of Patras and the Johns Hopkins School of Medicine

5. To host administrative officials for visits of the respective Institutions in order to evaluate and improve the program/s of this agreement
6. To work toward cooperation in other areas of interest to both Institutions

The **main Scientific and Research Fields** included in the cooperation agreement are:

1. Neurosciences and neuroimaging of the Brain
2. Clinical Immunology/Allergology
3. Public Health
4. Biotechnology-Biomechanics
5. Cardiology imaging (noninvasive coronary angiography, study of the heart function by CTA 320, MRI)
6. Biological Indexes and genetic approach of neuropsychiatric diseases

University of Patras feels proud for the achievement of this cooperation agreement, which is an evidence of the possibilities and the quality of the Greek Public University. Furthermore, this cooperation highlights the international approval of the clinical, laboratory and basic health research of our country as well as the responsible and quality education provided by the Public Medical Schools, especially the Faculty of Medicine of the University of Patras, in both undergraduate and postgraduate level.

The Greek Committee of the Hellenic Hopkins Initiative is asking the academic community of the University of Patras to fill the related [application form](#) in order to participate in the realization of the this academic collaboration. The applications will be submitted to the protocol of the University.

LIBRARY AND INFORMATION SERVICE

Library and Information Service (LIS) of the University of Patras is located at the new library building, at the end of Aristotelous street in the campus, at the east side of the Civil Engineer Department's facilities (tel. 2610 969620-23).

LIS houses a variety of collections of printed and digital literature as well as printed scientific journals for the majority of educational and research needs of the University. Additionally, LIS provides access in a variety of online scientific journals. LIS is an open access library and part of the Joint Venture of the Greek Academic Libraries Heal-Link. All members of the academic society of University of Patras are able to borrow books from LIS. LIS can be used by external users as well. All users must have a valid user card which is issued by the Circulation and Readers Services Department upon submission of an application. LIS also provides copy machines that can be used only for the copy of material that belongs to the library and work using counter systems or magnetic cards. Users of LIS have the possibility to order literature material from different Greek or foreign libraries with the corresponding charge (Trans-lending Services).

Visiting Hours:

January - July

Monday - Friday: 08:00 - 21:00

August

Monday - Friday 08:00 - 14:00

September - December

Monday - Friday: 08:00 - 21:00

LIS services are not available during holydays. Visiting hours are reduced the day before holydays. Every modification on the visiting hours is announced at the LIS or on the LIS website. For further information contact LIS on 2610 969620-23 or visit the LIS website <http://www.lis.upatras.gr>.

LIBRARY OF THE SCHOOL OF MEDICINE

The Library of the Faculty of Medicine provides its users with books and journals of clinical medicine and relative fields of study. It is located in the complex of the auditoriums and the library of the Faculty of Medicine (Next to the Preclinical Research Building, ground floor).

The library is provided with internet for the service of mailing (through MEDLINE database). The users may download full text articles from free on-line journals, and give on-line orders for journals' articles and chapters of books to Greek and foreign libraries. A connection with international data bases of references is also available so that the users may easily request Citations, Instructions, etc.

Visiting Hours

Monday – Friday, 8.30-20.00.

Any changes regarding the visiting hours will be announced by the library

Use

The library provides a reading room (150 seats), a copy machine with charge of use and computers.

Users may also borrow books from the library as long as they have the library card.

Journals

70 titles of Journals (current printed subscriptions)

155 titles (printed suspended subscriptions)

Digital subscriptions are also available

Books

5.816 Titles

6.080 Copies

Digital material

The library provides 43 CDs for a variety of medical specialties and computers for the use of the digital material. The users cannot borrow CDs from the library

2610 994721, +30 2610 997873, FAX: +30 2610 997873

Telephone

E-mail

agianika@upatras.gr, mmaniaki@upatras.gr

Employee

Maria Maniaki, Evgenia Papandreu

THE EUDOXUS PLATFORM

All students of higher education Institutes of Greece can choose among the literature provided through the online service EUDOXUS (www.eudoxus.gr). The Secretariat provides all the necessary information for the available literature at the beginning of the academic year. Students can visit the website www.eudoxus.gr, in order to submit their selection, for the courses of the Fall Semester of the current academic year. Submission of the online application forms by the students requires certified username and password provided by the central online services of the University. This account is obtained by each student during registration in the corresponding Department. This account is used by the student in order to gain access to University Services such as email, e-class, vpn, EUDOXUS etc. Students who have lost their passwords should contact the Networks Department (LIS facilities, 2nd floor tel. 2610-969.650, 2610-969.651, 2610-969.654) to obtain a new one.

For further information students may contact EUDOXUS Users Assistant Office (helpdesk@eudoxus.gr or 801-11-13600).

PART TWO



EDUCATIONAL OBJECTIVES

The Faculty aspires to convey to its graduates, the moral values that should accompany the practice of medicine and to impart all the scientific knowledge that will allow the future physicians to recognize and deal effectively with the various medical situations they will be called to face after their graduation.

Additionally, the major medical education goal is to implant the academic culture and enable those who wish to, to obtain the knowledge needed for an academic carrier as a teacher or a researcher. These objectives reflect in the following ten points, that describe the skills and characteristics that students should have obtained until their graduation from the Faculty of Medicine of the University of Patras

1. The perception that practicing of medicine requires both scientific knowledge and humanitarian response to the patient.
2. High moral and academic criteria for the practice of medicine.
3. Deep knowledge of the structure, the function and the development of the human body. Such knowledge includes a large range of levels of analysis both in molecular and in organism behavioral levels.
4. Deep knowledge of the mechanisms of cause and effect and their role in the manifestation of the disease. Concurrently and combined with the above, knowledge of the basis of medication therapy.
5. The skills of sufficiently recording a patient's medical history, performing a complete physical examination and finally prioritizing and solving the problems recognized by the first two procedures. Very good knowledge of the diseases that directly endanger the patient's life as well as the most common diseases. Good knowledge of the rare diseases. Awareness of their own skills and the need of help when needed.
6. Understanding the effects of the environment on human health and the responsibility of the physicians on the prevention of a disease. Knowledge that will enable them to suggest immediate troubleshooting of the so called occupational diseases, behavior diseases and general public health problems of their country.
7. The perception that medical practice requires continuing education, and the skill to teach themselves, using the proper sources and working practice. The wish and the ability to judge their personal performance.
8. The ability to collaborate efficiently within a clinical or research group.
9. The ability to work efficiently in a variety of ways of medical services, from the community's medical center to the University's clinic.
10. Interest in basic and applied research, and basic knowledge that will enable them to deal with research if they choose to.

STUDIES CONTENT

Studies at the Faculty of Medicine (School of Medicine) last six years (twelve semesters) and are divided into two levels: theoretical education and clinical training. Theoretical education is held during the first four years (eight semesters). It is initiated with the teaching of the basic (pre-clinical) branches of the medical science supplemented by laboratory training and continues with the teaching of the clinical branches supplemented with the hospital training. Hospital training of clinical branches is held on the fifth and sixth year of studies, after the completion of all theoretical courses, both preclinical and clinical.

Clinical courses take place based on the knowledge gained by the basic (preclinical) courses, regardless of whether these courses are taught in the hospital or not. Graduates of the Faculty of Medicine are required to serve as general practitioners at rural hospitals (Primary Healthcare) prior to their residency training for obtaining medical specialty. A license provided by the Ministry of Health is required in order to practice medicine. Physicians regardless of whether they have obtained medical specialty or not, but have fulfilled their liabilities may be employed in: In the public sector, in the National Healthcare System, in hospitals, Medical Centers and other services of the ministry of Health.

THE NEW CURRICULUM

The new curriculum of the Faculty of Medicine was established gradually since the academic year 2003-2004 and was funded by the 2nd Community Support Framework, under the chairmanship of Prof. Dionisis Bonikos, professor of pathology, who was the scientific director and the initiator of the new curriculum, with the contribution of the project implementation team from the Professors Apostolos Vagenakis, George Dimitrakopoulos, Fotios Kalfarentzos and Charalambos Gogos. A practical response to the demands of today's and tomorrow's reality in the field of medical practicing is the purpose of the new curriculum. The new curriculum also aims to adapt to the current educational status in Greece and coordinate this adaptation procedure with the rest of the Greek medical schools of Universities.

Therefore, the new curriculum contains a significant number of new courses, but mainly a new educational perception (Basic Program Core, Study Guides, Problem-Based Learning (PBL), Integrative courses, etc.), that focuses on the student as an individual, exactly the way they will have to serve the community. Annual Curriculum is determined by the General Assembly of the Faculty following suggestions of the Curriculum Committee of each academic year. The Curriculum states the names of the courses, the courses' content, the weekly teaching schedule, the type of the course (lecture, laboratory training etc.) and the time sequence or interdependence of the courses/clinical training.

The Curriculum for the current academic year as follows:

1st YEAR - 1st SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECTS Units	T.U.	W.F.	DIVISION
	Lectures	Tutorials – Laboratory training	Lectures	Tutorials – Laboratory training				
BIOLOGY I	3	3	42	42	6	6	2	Basic Medical Sciences I
BIOCHEMISTRY I	3	3	42	42	6	6	2	Basic Medical Sciences I
MEDICAL PHYSICS	3	3	42	42	6	6	2	Basic Medical Sciences I
MEDICAL INFORMATICS	2	2	28	28	4	4	1,5	Basic Medical Sciences I
INTRODUCTION TO CLINICAL MEDICINE	2	-	28	-	4	2	1	Internal Medicine I

1st YEAR – 2nd SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECTS Units	T.U.	W.F.	DIVISION
	Lectures	Tutorials – Laboratory training	Lectures	Tutorials – Laboratory training				
BIOLOGY II	3	3	42	42	6	6	2	Basic Medical Sciences I
BIOCHEMISTRY II	3	3	42	42	6	6	2	Basic Medical Sciences I
ANATOMY I	3	3	42	42	6	6	2	Basic Medical Sciences II
HISTOLOGY- EMBRIOLOGY I	2	2	28	28	4	4	1,5	Basic Medical Sciences II
PHYSIOLOGY I	3	3	42	42	6	6	2	Basic Medical Sciences II
CLINICAL SKILLS- CPR	-	2	-	28	2	2	1	Internal Medicine I

2nd YEAR – 3rd SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECTS Units	T.U.	W.F.	DIVISION
	Lectures	Tutorials – Laboratory training	Lectures	Tutorials – Laboratory training				
ANATOMY II	4	3	56	42	8	7	2	Basic Medical Sciences II
HISTOLOGY- EMBRIOLOGY II	2	2	28	28	5	4	1,5	Basic Medical Sciences II
BIOCHEMISTRY III	3	3	42	42	6	6	2	Basic Medical Sciences I
PHYSIOLOGY II	5	3	70	42	8	8	2	Basic Medical Sciences II

CLINICAL SKILLS I	-	2	-	28	3	2	1	Internal Medicine I - Surgery
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2nd YEAR – 4th SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECTS Units	T.U.	W.F.	DIVISION
	Lectures	Tutorials-Laboratory training	Lectures	Tutorials-Laboratory training				
NEUROSCIENCES	4	3	56	42	6	7	2	Basic Medical Sciences II
PUBLIC HEALTH	2	2	28	28	4	4	1,5	Clinical Laboratories
PHARMACOLOGY I	3	2	42	28	6	5	2	Basic Medical Sciences II
MICROBIOLOGY I	3	3	42	42	6	6	2	Clinical Laboratories
PATHOLOGY I	6	1	56	42	6	7	2	Clinical Laboratories
CLINICAL SKILLS II	-	2	-	28	2	2	1	Internal Medicine I - Surgery

3rd YEAR – 5th SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECTS Units	T.U.	W.F.	DIVISION
	Lectures	Tutorials-Laboratory training	Lectures	Tutorials-Laboratory training				
PATHOLOGY II	6	1	56	42	6	7	2	Clinical Laboratories
BIOETHICS	1	2	14	28	3	3	1,5	Clinical Laboratories
PHARMACOLOGY II	3	2	42	28	6	5	2	Basic Medical Sciences II
MICROBIOLOGY II	3	3	42	42	6	6	2	Clinical Laboratories
CLINICAL SKILLS III	-	2	-	28	2	2	1	Internal Medicine I - Surgery
BIOSTATISTICS	2	2	28	28	3	4	1,5	Basic Medical Sciences I

OPTIONAL COURSES (ELECTION OF ONE IS MANDATORY)

OPTIONAL COURSES	HOURS/WEEK		HOURS/SEMESTER		ECTS Units	T.U.	W.F.	DIVISION
	Lectures	Tutorials-Laboratory training	Lectures	Tutorials-Laboratory training				
INTRODUCTION TO LABORATORY HAEMATOLOGY	-	2	-	28	4	2	1	Internal Medicine I

CLINICAL NEUROANATOMY – MOLECULAR ANATOMY	-	2	-	28	4	2	1	Basic Medical Sciences II
PHARMACOGENOMICS	-	2	-	28	4	2	1	Basic Medical Sciences II
MEDICAL GENETICS	-	2	-	28	4	2	1	Basic Medical Sciences I
CLINICAL BIOCHEMISTRY		2		28	4	2	1	Basic Medical Sciences I
MOLECULAR AND GENETIC EPIDEMIOLOGY	2	-	-	28	4	2	1	Clinical Laboratories
PHYSIOLOGY AND BIOLOGY OF STEM CELLS-APPLICATION IN REGENERATIVE MEDICINE	-	2	-	28	4	2	1	Basic Medical Sciences II
NEUROBIOLOGY OF MNEMONIC FUNCTIONS	-	-	-	28	4	2	1	Basic Medical Sciences II
PATHOBIOLOGY OF BONE TISSUE DISEASES	-	-	-	28	4	2	1	Basic Medical Sciences II
TROPICAL MEDICINE AND EMERGING INFECTIOUS DISEASE/TROPICAL	-	2	-	28	4	2	1	Internal Medicine I
BASIC PRINCIPLES OF ROBOTICS IN MEDICINE	2	-	-	28	4	2	1	Surgery

3rd YEAR – 6th SEMESTER (INTEGRATION I)

SYSTEMS	HOURS/WEEK	WEEKS	TOTAL HOURS	ECTS Units	T.U.	W.F.	DIVISION
INTRODUCTION TO RADIOLOGY	25	1	25	2	1	1	Clinical Laboratories
CARDIOVASCULAR	25	2	50	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
RESPIRATORY	25	2	50	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
HEMATOPOIETIC	25	2	50	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II

GASTROINTESTINAL TRACT	25	2	50	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
MUSCULOSKELETAL DISORDERS OF THE CONNECTIVE TISSUE	25	2	50	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
URINARY	25	1,5	35	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
DERMATOLOGY	25	1,5	35	4	1	1	Internal Medicine I

4th YEAR – 7th SEMESTER (INTEGRATION II)

SYSTEMS	HOURS/WEEK	WEEKS	TOTAL HOURS	ECTS Units	T.U.	W.F.	DIVISION
ENDOCRINE GLANDS	25	2	50	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
NEUROLOGY	23	1,5	35	4	1	1	Internal Medicine II
PSYCHIATRY	27	1,5	40	4	1	1	Internal Medicine II
OBSTETRICS-GYNAECOLOGY	25	2	50	4	1	1	Paediatrics and Obstetrics-Gynaecology
PAEDIATRICS	25	2	50	4	1	1	Paediatrics and Obstetrics-Gynaecology
SURGERY-TRAUMA	25	1	25	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
ONCOLOGY-INFECTIONS	25	2	50	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
HEALTH PROMOTION/DISEASE PREVENTION/COMMUNITY MEDICINE	25	1	25	2	1	1	Internal Medicine I, Clinical Laboratories

4th YEAR – 8th SEMESTER

CLINICAL TRAINING	INTERNSHIP		TOTAL INTERNSHIPS	ECTS Units	T.U.	W.F.	DIVISION
	Hours/Week	Weeks					
OPHTHALMOLOGY	25	2	50	5	6	2	Surgery
OTORHINOLARYNGOLOGY	25	2	50	5	6	2	Surgery
RADIOLOGY	25	2	50	5	6	2	Clinical Laboratories
ORTHOPAEDICS	25	2	50	5	6	2	Surgery

UROLOGY	25	2	50	5	6	2	Surgery
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OPTIONAL COURSES (ELECTION OF ONE IS MANDATORY)

OPTIONAL COURSES	HOURS/WEEK		HOURS/SEMESTER		ECTS Units	T.U.	W.F.	DIVISION
	Lectures	Tutorials-Laboratory training	Lectures	Tutorials-Laboratory training				
INTRODUCTION TO CARDIOTHORACIC SURGERY	25	-	25	-	5	1	1	Surgery
SOLID ORGAN TRANSPLANTATION	25	-	25	-	5	1	1	Surgery
NUTRITION AND HEALTH	25	-	25	-	5	1	1	Clinical Laboratories
INTRODUCTION TO NUCLEAR MEDICINE	25	-	25	-	5	1	1	Clinical Laboratories
PAEDIATRIC AND REPRODUCTIVE ENDOCRINOLOGY	25	-	25	-	5	1	1	Paediatrics and Obstetrics-Gynaecology
FETAL-MATERNAL MEDICINE	25	-	25	-	5	1	1	Paediatrics and Obstetrics-Gynaecology
VASCULAR SURGERY	25	-	25	-	5	1	1	Surgery
THE PHARMACOLOGICAL BASES OF THERAPEUTICS CONTRIBUTION TO THE PREPARATION OF THE NEW DOCTOR	25	-	25	-	5	1	1	Basic Medical Sciences II
NATURAL MEDICINEPHYSICAL MEDICINE & REHABILITATION	25	-	25	-	5	1	1	Surgery
GERIATRIC MEDICINE AND GERONTOLOGYGERIATRICS	25	-	25	-	5	1	1	Internal Medicine II
FUNCTIONAL UROLOGY	25	-	25	-	5	1	1	Clinical Laboratories
PAEDIATRIC SURGERYS	25	-	25	-	5	1	1	Paediatrics and Obstetrics-Gynaecology
NEUROPSYCHIATRY	25	-	25	-	5	1	1	Internal Medicine II

5th YEAR – 9th AND 10th SEMESTER

CLINICAL TRAINING	INTERNSHIP		TOTAL INTERNSHIPS	ECTS Units	T.U.	W.F.	DIVISION
	Hours/Week	Weeks					
INTERNAL MEDICINE (CARDIOLOGY/NEPHROLOGY/PULMONOLOGY/GASTROENTEROLOGY included)	35	8	280	14	10	2	Internal Medicine
PAEDIATRICS	35	4	140	8	5	2	Paediatrics and Obstetrics-Gynaecology
SURGERY (2 weeks INTENSIVE CARE and 2 weeks ORTHOPAEDICS included)	35	8	280	14	10	2	Surgery
OBSTETRICS AND GYNAECOLOGY	35	4	140	8	5	2	Paediatrics and Obstetrics-Gynaecology
PSYCHIATRY *	35	4	140	8	5	2	Internal Medicine
NEUROLOGY * (1 week NEUROSURGERY included)	35	4	140	8	5	2	Internal Medicine I - Surgery

6th YEAR – 11th AND 12th SEMESTER

CLINICAL TRAINING	INTERNSHIP		TOTAL INTERNSHIPS	ECTS Units	T.U.	W.F.	DIVISION
	Hours/Week	Weeks					
INTERNAL MEDICINE *	35	6	210	12	8	2	Internal Medicine
SURGERY *	35	6	210	12	8	2	Surgery
PAEDIATRICS *	35	6	210	12	8	2	Paediatrics and Obstetrics-Gynaecology
OBSTETRICS & GYNAECOLOGY *	35	3	105	4	4	1,5	Paediatrics and Obstetrics-Gynaecology
OPHTHALMOLOGY	35	2	70	4	4	1,5	Surgery
OTORHINOLARYNGOLOGY	35	2	70	4	4	1,5	Surgery
ELECTIVE CLINICAL TRAINING	35	2	70	4	2	1	
ELECTIVE CLINICAL TRAINING	35	2	70	4	2	1	
ELECTIVE CLINICAL TRAINING	35	2	70	4	2	1	

ELECTIVE CLINICAL TRAINING (ELECTION OF THREE IS MANDATORY)

CLINICAL TRAINING	INTERNSHIP		TOTAL INTERNSHIPS	ECTS	T.U.	W.F.	DIVISION
	Hours/Week	Weeks					
OTORHINOLARYNGOLOGY	35	2	70	4	2	1	Surgery
UROLOGY	35	2	70	4	2	1	Surgery
OPHTHALMOLOGY	35	2	70	4	2	1	Surgery
CARDIOLOGY	35	2	70	4	2	1	Internal Medicine I
MICROBIOLOGY	35	2	70	4	2	1	Clinical Laboratories
PATHOLOGY	35	2	70	4	2	1	Clinical Laboratories
DERMATOLOGY	35	2	70	4	2	1	Internal Medicine II
ORTHOPAEDICS	35	2	70	4	2	1	Internal Medicine II
INTENSIVE CARE	35	2	70	4	2	1	Surgery
HAEMATOLOGY	35	2	70	4	2	1	Internal Medicine I
ENDOCRINOLOGY	35	2	70	4	2	1	Internal Medicine I
NEPHROLOGY	35	2	70	4	2	1	Internal Medicine I
GASTROENTEROLOGY	35	2	70	4	2	1	Internal Medicine I
REUMATOLOGY	35	2	70	4	2	1	Internal Medicine I
INFECTIOUS DISEASES	35	2	70	4	2	1	Internal Medicine I
PULMONOLOGY	35	2	70	4	2	1	Internal Medicine I
ONCOLOGY	35	2	70	4	2	1	Surgery
CARDIOTHORACIC SURGERY	35	2	70	4	2	1	Surgery
IMMUNOHAEMATOLOGY	35	2	70	4	2	1	Internal Medicine I
NEUROSURGERY	35	2	70	4	2	1	Surgery
RADIOLOGY-RADIOTHERAPY	35	2	70	4	2	1	Clinical Laboratories
ANDROLOGY	35	2	70	4	2	1	Surgery
RADIOLOGY	35	2	70	4	2	1	Clinical Laboratories
NEONATOLOGY	35	2	70	4	2	1	Paediatrics and Obstetrics- Gynaecology
VASCULAR SURGERY	35	2	70	4	2	1	Surgery

1. A member of the teaching staff of the corresponding clinical specialty is responsible for each system of integrated education.

Examinations in Clinical Training (courses) of 9th, 10th, 11th and 12th semester will be held at the ending of the training and the scores will be submitted to the Secretariat during the scheduled examination periods.

2. The following will be applied during the current academic year:

«Introduction to clinical skills – CPR» - 2nd semester – Prerequisite course of «Clinical Skills I»

«Clinical Skills I» - 3rd semester – Prerequisite course of «Clinical Skills II»

«Clinical Skills II» - 4th semester – Prerequisite course of «Clinical Skills III»

3. All students are required to attend two (2) hours per week, the course «Foreign Language» during the first four semesters.
4. The scores they will achieve on the above course will not affect the calculation of their diploma degree or their graduation.
5. **T.U**= Teaching Units, **W.F** = Weighting Factor

CURRICULUM ADJUSTMENTS

The current curriculum will be applied according to the adjustments determined by the General Assembly during the academic year 20178-20189:

- «Introduction to clinical skills-CPR»-2nd semester – Prerequisite course for «Clinical Skills I»
- «Clinical Skills I» - 3rd semester – Prerequisite course for «Clinical Skills II»
- «Clinical Skills II»- 4th semester – Prerequisite course for «Clinical Skills III»

Regarding the courses and clinical training of the 5th and 6th year of studies, the following readjustments will be applied:

CLINICAL TRAINING IN INTERNAL MEDICINE (6th YEAR)

The following courses of Integration I and II are set as prerequisite courses for Clinical Training on Internal Medicine:

6th semester

1. Cardiovascular System
2. Respiratory System
3. Haematopoiesis
4. Gastrointestinal System
5. Musculoskeletal – Disorders of the connective tissue
6. Urinary system

7th semester

7. Endocrine glands
8. Fever of unknown origin – Terminally ill patient – Evidence based medicine – Oncology – Infections

Students are required to have attended and been examined on the courses listed above during the scheduled examination periods in order to attend and be examined on Clinical Training on Internal Medicine, course of the 6th year of studies.

It is also suggested:

- A. Students of the 3rd and 4th years of studies who have failed in the informal preliminary examination that is held right after the lectures of each course of Integration I and II, are able to be examined during the formal examination period of the corresponding semester (Fall or Spring), along with the students who have not been examined in the informal preliminary examination. In any case, the scores will be submitted to the Secretariat of the Faculty within the scheduled examination periods (January-February or September, for courses of Fall semester and June or September, for courses of the Spring semester).
- B. Students who have scored an average of at least five (5) in the courses listed above, are able to attend the Clinical Training on Internal Medicine of the 6th year of studies. Not participating in the examination is equal to zero score in the course. In any case students are required to achieve a pass score in all courses listed above in order to be examined on the Clinical Training.

The students may begin the clinical training on time even if they fail to achieve a pass score at one or more of the prerequisite courses listed above, in the examinations of June and January-February correspondingly. In this case the students must pass the courses in the following examinations of September; otherwise the training is disrupted right after the announcement of the results and considered not done.

This adjustment is applied for the students of 3rd and 4th year of studies of the academic year 2007-08 and on.

CLINICAL TRAINING ON SURGERY (6th YEAR)

The following four (4) courses of Integration I and II are set as prerequisite courses for Clinical Training on Surgery:

6th semester

1. Cardiovascular
2. Respiratory
3. Gastrointestinal

7th semester

4. Nutrition – Toxicology - Trauma

Students are required to have attended and been examined on the courses listed above during the scheduled examination periods in order to attend and be examined on Clinical Training on Surgery, course of the 6th year of studies.

It is also suggested:

- A. Students of the 3rd and 4th years of studies who have failed in the informal preliminary examination that is held right after the lectures of each course of Integration I and II, are able to be examined during the formal examination period of the corresponding semester (Fall or Spring), along with the students who have not been examined in the informal preliminary examination. In any case, the scores will be submitted to the Secretariat of the Faculty within the scheduled examination periods (January-February or September, for courses of the Fall semester and June or September, for courses of the Spring semester).
- B. Students who have scored an average of at least five (5) in the courses listed above, are able to attend the Clinical Training on Surgery of the 6th year of studies. Not participating in the examination is equal to zero score in the course. In any case students are required to achieve a pass score in all courses listed above in order to be examined on the Clinical Training.

The students may begin the clinical training on time even if they fail to achieve a pass score at one or more of the prerequisite courses listed above, in the examinations of June and January-February correspondingly. In this case the students must pass the courses in the following examinations of September; otherwise the training is disrupted right after the announcement of the results and considered not done.

This adjustment is applied for the students of 3rd and 4th year of studies of the academic year 2007-08 and on.

CLINICAL TRAINING ON PAEDIATRICS (6th YEAR)

The following course of Integration II is set as prerequisite course for Clinical Training on Paediatrics:

7th semester

1. Pediatrics

Students are required to have attended and been examined on the above course during the scheduled examination periods in order to attend and be examined on Clinical Training on Paediatrics, course of the 6th year of studies.

Students of the 4th year of studies, who have failed in the informal preliminary examination that is held right after the lectures of the course of Integration II, will be able to be examined during the formal examination period of the corresponding Fall semester, along with the students who have not been examined in the informal preliminary examination. In any case, the scores will be submitted to the Secretariat of the Faculty within the scheduled examination periods (January-February or September).

This adjustment is applied for the students of 4th year of studies of the academic year 2007-08 and on.

CLINICAL TRAINING ON OBSTETRICS-GYNAECOLOGY (6th YEAR)

The following course of Integration II is set as prerequisite course for Clinical Training on Obstetrics-Gynaecology:

7th semester

1. Obstetrics-Gynaecology

Students are required to have attended and been examined on the above course during the scheduled examination periods in order to attend and be examined on Clinical Training on Obstetrics-Gynaecology, course of the 6th year of studies.

Students of the 4th year of studies, who have failed in the informal preliminary examination that is held right after the lectures of the course of Integration II, will be able to be examined during the formal examination period of the corresponding Fall semester, along with the students who have not been examined in the informal preliminary examination. In any case, the scores will be submitted to the Secretariat of the Faculty within the scheduled examination periods (January-February or September).

This adjustment is applied for the students of 4th year of studies of the academic year 2007-08 and on.

CLINICAL TRAINING ON NEUROLOGY (5th YEAR)

The following course of Integration II is set as prerequisite course for Clinical Training on Neurology:

7th semester

1. Neurology

Students are required to have attended and been examined on the above course during the scheduled examination periods in order to attend and be examined on Clinical Training on Neurology, course of the 5th year of studies.

Students of the 4th year of studies, who have failed in the informal preliminary examination that is held right after the lectures of the course of Integration II, will be able to participate in two additional examination procedures:

1. The formal examination period of Fall semester, along with students who have not been examined in the informal preliminary examination, and
2. In an additional examination procedure, which will be held after the above-mentioned examination procedures and before the examinations of September, according to the judgment of the teachers.

In any case, the scores will be submitted to the Secretariat of the Faculty within the scheduled examination periods (January-February or September).

This adjustment is applied for the students of 4th year of studies in order to enable them to pass the prerequisite course since this clinical training begins early (in the 5th year of studies).

This adjustment is applied for the students of 3th year of studies of the academic year 2007-08 and on.

CLINICAL TRAINING ON PSYCHIATRY (5th YEAR)

The following course of Integration II is set as prerequisite course for Clinical Training on Psychiatry:

7th semester

1. Psychiatry

Students are required to have attended and been examined on the above course during the scheduled examination periods in order to attend and be examined on Clinical Training on Psychiatry, course of the 5th year of studies.

Students of the 4th year of studies, who have failed in the informal preliminary examination that is held right after the lectures of the course of Integration II, will be able to participate in two additional examination procedures:

1. The formal examination period of Fall semester, along with students who have not been examined in the informal preliminary examination, and
2. In an additional examination procedure, this will be held after the above examination procedures and before the examinations of September, according to the judgment of the teachers.

In any case, the scores will be submitted to the Secretariat of the Faculty within the scheduled examination periods (January-February or September).

This adjustment is applied for the students of 4th year of studies in order to enable them to pass the prerequisite course since this clinical training begins early (in the 5th year of studies).

This adjustment is applied for the students of 3th year of studies of the academic year 2007-08 and on.

The scores of the clinical training (courses) of the 9th, 10th, 11th, 12th semesters will be submitted to the Secretariat during the scheduled examination periods. Any readjustment on the current curriculum is determined by the General Assembly of the Faculty, following suggestions of the Curriculum Committee of the Faculty.



DIVISION OF BASIC MEDICAL SCIENCES I

DEPARTMENT OF BIOCHEMISTRY

Address Preclinical Research Building
University Campus (Rio) Patra
Tel.: 2610-969870, Fax: 2610-969167

LABORATORY STAFF

Director Prof. Denis Drainas

Professors Constantinos Stathopoulos, George Dinos

Associate Professors -George Dinos

Assistant Professors -

Lecturers - Nika Konstantina

Supporting Teaching and technical Staff -

Administrative staff Katerina Grafanaki, MD

***Part of Integration study module I**

Biochemistry or Biological Chemistry is an interdisciplinary field combining Chemistry and Biology. It is the study of chemical processes within living organisms, as well as the substances included in the so-called “living matter”. The biochemistry laws govern all living organisms and life procedures, even after the death of an organism. By controlling the flow of genetic information encoded in the genes, the regulation of gene expression through particular biochemical processes (signal transduction) and management of the chemical energy flow through metabolism, biochemical processes highlight the operations and the complexity of the so-called phenomenon of life. Major part of biochemistry includes the study of the formulation, the structure, the functions and the reactions between the cellular and subcellular components such as proteins, carbohydrates, lipids, nucleic acids

and other biomolecules, as well as their equilibrium. Variations in the procedures as well as the concentrations of the molecules included, lead to significant temporary or permanent pathogenesis which are the subject of Pathobiochemistry, namely biochemistry of pathology.

BIOCHEMISTRY I 1st Year, 1st Semester (Mandatory)
Hours Teaching: 3, Laboratory: 3 (per week)
ECTS units 7
Teachers G. Dinos, K. Grafanaki (Laboratory)

COURSE OUTLINE

1. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_ 121	SEMESTER OF STUDIES	1 st
COURSE TITLE	BIOCHEMISTRY I		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course e.g. lectures laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, seminars and laboratory work	8	7	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			

COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General Background
PREREQUISITE COURSES:	No
TEACHING AND ASSESSMENT LANGUAGE:	Greek, English (optional)
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED807/ http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=5

2. LEARNING OUTCOMES

<p>Lerning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i>

- *Guidelines for writing Learning Outcomes*

The course is an introduction to Biochemistry and to the fundamental reactions of metabolism that take place inside the cell. It includes the analysis of all basic aspects and methodology of Biochemistry in the study of the basic building blocks, their organization into macromolecules and their involvement in metabolic pathways and reactions that take place under normal and pathological conditions. The aim of the course is to understand the composition and complexity of the compounds participating in the main metabolic networks, and how these are altered and determined in different conditions, such as the change in enzymes activity or transport proteins.

Upon completion of the course the students should be able to:

1. Understand the basic concepts of biochemistry and use the scientific literature to extract information in order to update their knowledge based on the latest scientific advances.
2. Distinguish biomolecule classes, their structural organization and their intracellular localization and understand the importance of their homeostasis for human health.
3. Understand the structure and function of enzymes, transport proteins and nucleic acids, as well as the genes coding them.
4. Understand the basic motifs of the reactions taking place in a cell, as well as the importance of the enzymes that catalyze them and their potential as therapeutic targets.
5. Recognize the importance of compounds that carry prosthetic groups or are responsible for the creation of redox potential and free radicals and how they relate to proper functioning of the human body, aging and disease

6. Perform experiments in the form of laboratory exercises related to diagnosis and interpret their results
7. Have the ability to collect and interpret relevant data within their knowledge field in order to make decisions on clinical and diagnostic issues as well as on wider scientific issues concerning scientific and ethical aspects
8. Use the knowledge and understanding they have acquired in a way that shows a professional approach to their work or profession and have acquired the skills they typically demonstrate by developing and supporting arguments to solve problems within the field of biochemistry.
9. Communicate information, ideas, problems and solutions to both qualified and non-specialized audiences.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Project planning and management

Decision-making

Team work

Working independently

Working in an interdisciplinary environment

Propose new research ideas

Production of free, creative and inductive thinking

Respect for the natural environment

3. COURSE CONTENT

1. INTRODUCTION TO BIOCHEMISTRY

Aqueous solutions of molecules and ions

Distinction between molecular and colloidal solutions.

Colligative properties of solutions (osmolarity)

Acids, bases, salts

Definitions, properties

Acids-bases titrations, equivalent point, neutral solution.

Water ionization, pH and Ionic strength of solutions

Buffer Solutions

Henderson-Hasselbalch equation

Preparation of buffer solutions

Solutions of chemical complexes

Definition and properties of Coordination compounds

Types of bonds of chemical complexes

Stability and instability constants

Biological significance of chemical complexes

2. STRUCTURE AND FUNCTION OF PROTEINS

Amino Acids and their properties

Peptides and Proteins

Importance of the nature of side chains of the amino acids in the properties of peptides and

proteins.

Electrolytic behavior of proteins/ physicochemical properties

Amino acid and peptide bond stereochemistry

Determination of the amino acid sequence of proteins

Levels of organization of protein structure

Denaturation and denaturants. Importance of denaturation in protein's biological activity

Protein purification methods

Structure-function relationships

3. NUCLEIC ACIDS AND FLOW OF THE GENETIC INFORMATION

Primary structure of nucleic acids

Sensitivity of nucleic acids primary structure to acids and bases

Secondary structure of nucleic acids (A, B and Z helices)

Tertiary structure of nucleic acids

DNA denaturation-rearrangement

Genes and genomes

Recombinant DNA technology

DNA sequencing

Bioinformatics

Homologous genes and phylogenetic trees

4. ENZYMES

General properties of enzymes

Enzymes classification

Coenzymes and prosthetic groups

Structure and biological significance of high-energy compounds (ATP, NADH, FADH₂)

Kinetic analysis of enzymatic reactions (Activation energy)

Mechanisms of catalysis

Kinetics of first-order reactions

Inhibition of enzymatic reactions

Regulatory mechanisms of enzymatic function

Proteolytic activation of zymogens

Allosteric regulation of enzymes

5. STEREOCHEMISTRY OF BIOMOLECULES AND SUGARS

Enantiomeric and diastereomeric compounds

Stereoisomers D, L, R and S.

Molecular configurations

Chirality α and its biological applications

Cis-trans isomerization in molecules with double bonds

Simple monosaccharides, D- and L-Glyceraldehyde derivatives

Physicochemical properties

Ring structure of monosaccharides

Glycosidic bonds, oligosaccharides

Polysaccharides (starch, cellulose, agarose, cell wall polysaccharides, glycogen)

6. LIPIDS AND BIOLOGICAL MEMBRANES

Fatty acids, lipids and phospholipids

Composition and structure of membranes

Membrane fluidity and transport

Cell membrane receptors

7. MEMBRANE CHANNELS AND PUMPS

Passive and active transport

Membrane transport proteins

Free energy transport and the Nerst potential equilibrium

Sodium-potassium pump (Na^+/K^+ ATPase)

8. METABOLISM AND BIOENERGETICS

Constitutive thermodynamic equations (enthalpy, entropy, Gibbs free energy)

Characteristics of exergonic and endergonic reactions

Transformation of Gibbs free energy to transportation, mechanical and biosynthetic output

Effects of pH, temperature and ionic strength on the equilibrium constant

High-energy group transfer potential

Basic reactions of metabolic processes (redox, hydrolysis, carboxylation, decarboxylation, isomerisation)

Classification of reactions and reactants (mesomerism and resonance structures, nucleophilic and electrophilic attack, elimination reactions, tautomerization reactions).

LABORATORY CLASSES

1. Becoming familiar with the laboratory space, introduction to health and safety regulations (use of chemical reagents, disposal, transfer of liquids). Learning the concepts of dilutions and preparation of simple aqueous solutions.
2. Spectrophotometry. Theory and practical acquaintance with spectrophotometers. Determination of the optimal wavelength for paranitrophenol absorption, application of the Beer-Lambert law and determination of paranitrophenol concentration in an unknown sample.
3. Kinetic study of the enzymatic activity of wheat acid phosphatase with para-nitro-phenol phosphate ester as the substrate. Study of reaction speed and determination of V_{\max} of K_M and enzyme activity (U / L).

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD <i>Face-to-face, Distance learning, etc.</i>	Lectures, group tutorials with PBLs και laboratory exercises
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Use of ICT in teaching, laboratory education, communication with</i>	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to e-class

<i>students</i>																
<p>The manner and methods of teaching are described in detail.</p> <p>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</p>	<table border="1"> <thead> <tr> <th>Activity</th> <th>Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures 3h/week</td> <td>39</td> </tr> <tr> <td>Tutorials, 2h for every week</td> <td>26</td> </tr> <tr> <td>Laboratory classes, 3h/week</td> <td>39</td> </tr> <tr> <td>Data analysis, interpretation and lab report</td> <td>13</td> </tr> <tr> <td>Home work</td> <td>58</td> </tr> <tr> <td>Total (hours)</td> <td>175</td> </tr> </tbody> </table>	Activity	Semester workload	Lectures 3h/week	39	Tutorials, 2h for every week	26	Laboratory classes, 3h/week	39	Data analysis, interpretation and lab report	13	Home work	58	Total (hours)	175	
Activity	Semester workload															
Lectures 3h/week	39															
Tutorials, 2h for every week	26															
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Data analysis, interpretation and lab report	13															
Home work	58															
Total (hours)	175															
<p>STUDENT ASSESSEMENT</p> <p>Description of the evaluation procedure</p> <p>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</p> <p>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</p>	<p>Written examination (85% of the final grade) which includes:</p> <ol style="list-style-type: none"> 1. Multiple choice questions 2. Questions on the analysis of clinical cases 3. Questions combining theory and laboratory data analysis <p>Reports of laboratory classes (15% of the final grade), evaluation includes:</p> <ol style="list-style-type: none"> 1. Knowledge of the theory related to the experiments 2. Quality and validity of experimental results. 3. Data interpretation and conclusion 															

5. RECOMMENDED LITERATURE

1. Berg J.M., Tymoczko J.L. and Stryer L. Biochemistry 8th edition, 2015 W.H. Freeman and Company.
2. Devlin T.M. Textbook of Biochemistry with Clinical Correlations 7th Edition, Wiley-Liss.

BIOCHEMIS 1st Year, 2nd Semester (Mandatory)

TRY II

Hours Teaching: 3, Laboratory: 3 (per week)

ECTS units 6

Teachers D. Drinas, C. Stathopoulos G.Dinos, K. Nica, K. Grafanaki (Laboratory)

Description

COURSE OUTLINE

GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMEN T	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_221	SEMESTER OF STUDIES	2 nd
COURSE TITLE	BIOCHEMISTRY II		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate</i>	TEACHING HOURS PER WEEK	ECTS CREDITS	

<i>components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		
Lectures, seminars and laboratory work	8	6
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General Background	
PREREQUISITE COURSES:	No	
TEACHING AND ASSESSMENT LANGUAGE:	Greek, English (optional)	

THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED809/ http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=12

7. LEARNING OUTCOMES

Leraning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
 - *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The course focuses on the basic principles of metabolism and cellular communication via signal transduction pathways and interactions of hormones with their cognate surface receptors. Individual modules include description and analysis of the principles and regulation of metabolic pathways of carbohydrates, lipids and cholesterol. The course aims to a comprehensive knowledge of the initiation and regulation of metabolic modules, the initiation and regulation of metabolic pathways, recognition of the intermediate and final products and the distinction between physiological and pathological conditions and how the latter can be identified by laboratory based biochemical analyses. Special emphasis is given in nutritional habits and how they affect metabolism under physiological and

pathological conditions.

Upon completion of the course, the students should be able to:

10. Understand the basic principles of intermediary metabolism and distinguish between physiological and pathological conditions based on laboratory measurements of metabolites.
11. Comprehend the role of surface receptors in signal transduction, regulation of gene expression and pharmacological targeting.
12. Associate disease with the deregulation of metabolism, seek the etiology and suggest the therapeutic strategies.
13. Understand and evaluate the contribution of nutrition in the homeostasis of intermediary metabolism, both under normal and pathological conditions.
14. Conduct experiments during laboratory classes related to diagnosis and interpret the data.
15. Be kept updated with new developments in the field and the international bibliography.
16. Use the knowledge and understanding they have acquired in a way that demonstrates a professional approach to their work and have skills proven to develop and support arguments to solve problems within their cognitive field.
17. Gather and interpret relevant information within their field of knowledge and to make decisions after consideration of relevant social, scientific and ethical issues.
18. Communicate information, ideas, problems and solutions of both qualified and non-specialized audiences.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma

Supplement and appear below), at which of the following does the course aim?

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Team work</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	
<i>Production of new research ideas</i>	

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Project planning and management
Decision making
Team work
Working independently
Working in an interdisciplinary environment
Propose new research ideas
Production of free, creative and inductive thinking
Respect for the natural environment

8. COURSE CONTENT

1. SIGNAL TRANSDUCTION PATHWAYS

- Signaling as the major means of intercellular communication of cells and tissues
- Signal transduction and reshaping of the heterotrimeric G proteins
- Insulin signaling: phosphorylation cascades and their significance in signal transduction pathways.

- Signaling pathways downstream the Epidermal Growth Factor Receptor(EGFR)
- Common trends and differences amongst signaling cascades
- Deregulation of signaling pathways in cancer and other diseases.

2. CARBOHYDRATE METABOLISM

- Digestion and absorption of dietary carbohydrates
- Stages and energy production from degradation of dietary macromolecules.
- Anaerobic glycolysis: mechanisms and regulation of the pathway
- Entry of Fructose and Galactose into the glycolytic pathway
- Metabolic fate of pyruvate
- Lactic acid, glycerol and amino acids in Gluconeogenesis: mechanisms and regulation of the pathway- the significance of Cori's cycle
- Pentose phosphate pathway: regulation of the pathway, its significance for the Red Blood Cell.
- Role of the Pentose phosphate pathway in the production of redox potential for biosynthetic pathways, neutralization of reactive oxygen species and biosynthesis of ribonucleotides.
- Biosynthesis and breakdown of Glycogen

- Disorders of glycogen metabolism
- Blood glucose homeostasis. Adaptation of metabolism during prolonged fasting.
- Glycoproteins.

3. THE CITRIC ACID CYCLE

- Conversion of pyruvate to acetyl-coenzyme A.
- Mechanisms and regulation of the reactions in KREBS cycle.
- Entry of amino acids in the cycle and participation in anabolic reactions.
- Regulation of the cycle and its usage as a source of biosynthesis precursors.
- Deregulation of the KREBS cycle in cancer

9. BIOLOGICAL OXIDATION

- Oxygen as an oxidizing agent in biological systems– the role of respiration in humans
- Electron carriers, electron transport through the respiratory chain.
- ATP production in mitochondria and its impact in cardiac function
- Mechanisms and regulation of oxidative phosphorylation.
- Mitochondrial transportation systems
- Mitochondrial diseases

- Neutralization of oxygen's toxic derivatives

10. METABOLISM OF FATTY ACIDS AND MEMBRANE LIPIDS

- Mobilization of adipose tissue's fatty acids
- Oxidation of fatty acids
- Production and utilization of ketone bodies – their role in prolonged fasting
- Fatty acid biosynthesis: Mechanisms and regulation of reactions
- Triglyceride biosynthesis and storage
- Phosphoglycerate and sphingolipid metabolism, their significance in health
- Biosynthesis, regulation and biological role of prostaglandins, prostacyclin and thromboxanes.

11. CHOLESTEROL AND STEROID HORMONE METABOLISM

- Biosynthesis and metabolic regulation of cholesterol
- Inhibition of cholesterol synthesis as a pharmaceutical target
- Biosynthesis and role of bile acids- the significance of human microbiome
- Absorption of dietary fat- metabolism and function of lipoproteins- the importance of nutritional trends
- Mutations of the LDL receptors- hypercholesterolemia- atherosclerosis- coronary heart disease

(molecular mechanisms, the role of antioxidants, therapeutic perspectives)

- Steroid hormone biosynthesis – synthesis and significance of vitamin D.

LABORATORY CLASSES

4. Measurements of glucose and amylase in serum.
5. Measurement of total cholesterol in serum and lipoprotein electrophoresis.
6. Measurement of lactate dehydrogenase Vmax and its conversion in enzymatic units (U/L)

12. TEACHING AND LEARNING METHODS - ASSESSMENT

<p>TEACHING METHOD <i>Face-to-face, Distance learning, etc.</i></p>	Lectures, group tutorials with PBLs και laboratory exercises	
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to e-class	
<p>TEACHING ORGANIZATION <i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational</i></p>	<p>Activity</p>	<p>Semester workload</p>
	Lectures 3h/week	39
	Tutorials, 3h for every week	39
	Laboratory classes	24
	Data analysis, interpretation and lab	8

visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS	report	
	Homework	40
	Total (hours)	150
<p>STUDENT ASSESMENT</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students</i></p>	<p>Written examination (85% of the final grade) which includes:</p> <ol style="list-style-type: none"> 4. Multiple choice questions 5. Questions on the analysis of clinical cases 6. Questions combining theory and laboratory data analysis <p>Reports of laboratory classes (15% of the final grade), evaluation includes:</p> <ol style="list-style-type: none"> 4. Knowledge of the theory related to the experiments 5. Quality and validity of experimental results 6. Data interpretation and conclusion 	

13. RECOMMENDED LITERATURE

<ol style="list-style-type: none"> 3. Berg J.M., Tymoczko J.L. and Stryer L. Biochemistry 8th edition, 2015 W.H. Freeman and Company. 4. Baynes J.W., Dominiczak M.H. Medical Biochemistry, 4th edition, Saunders (2014).

BIO 2nd Year, 3rd Semester (Mandatory)
CHEMISTRY III
Hours Teaching: 3, Laboratory: 3 (per week)
ECTS units 6
Teachers D. Drainas, C. Stathopoulos G.Dinos, K. Nica, K. Grafanaki (Laboratory)

Description

COURSE OUTLINE

14. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_331	SEMESTER OF STUDIES	3 ^o
COURSE TITLE	BIOCHEMISTRY III		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, seminars and laboratory work	8	6	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General Background		

PREREQUISITE COURSES:	No
TEACHING AND ASSESSMENT LANGUAGE:	Greek, English (optional)
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/modules/document/?course=MED810

15. LEARNING OUTCOMES

15.

<p>Lerning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<p>The course deals with the metabolism of haem and iron, proteins, amino acids and nucleotides. It also deals with the flow of genetic information with particular emphasis on DNA replication, DNA</p>

transcription, protein biosynthesis and the regulation of gene expression. The final module of Biochemistry III focuses on the biochemical basis of the immune responses. The course aims to provide an holistic view of metabolism and the mechanisms controlling and coordinate the metabolic pathways, including hormonal regulation.

Following completion of the course, the students should be able to:

19. Comprehend the organization, coordination and regulation of anabolic and catabolic pathways and their deregulation in pathological conditions. Associate laboratory measurements of key biochemical markers, used for the diagnosis and monitoring of diseases, with potential defects in metabolic pathways and utilize them for clinical diagnostic and therapeutic decision making.
20. Recognize fine, yet essential, differences in the process of protein synthesis between bacteria and humans and how widely used antibiotics affect each system.
21. Become familiar with new developments in the field of “gene expression regulation” and the emergence of diseases, with particular focus on the roles of small and large regulatory RNAs.
22. Understand the importance of epigenetic changes in the expression of genes responsible for metabolism
23. Recognize the importance of the immune system and the orchestration of the immune response.
24. Conduct laboratory-based experiments, utilized for diagnoses and interpret the data.
25. Be kept updated with new developments in the field and the international bibliography.
26. To use the knowledge and understanding they acquired for the construction of educated arguments, effective trouble shooting and an overall professional approach towards their

respective fields.

27. Be able to gather and interpret relevant information within their field of knowledge and to make decisions after consideration of relevant social, scientific and ethical issues.
28. Be able to communicate information, ideas, problems and solutions of both qualified and non-specialized audiences.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

Search for, analysis and synthesis of data and information with the use of the necessary technology

Project design and management

Decision making

Team work

Working independently

Working in an interdisciplinary environment

Production of new research ideas

Promote free, creative and inductive thinking

Respect for the natural environment

16. COURSE CONTENT

1. HEME AND IRON METABOLISM

- Heme biosynthesis and degradation
- Disorders of Heme metabolism
- Iron homeostasis

2. PROTEIN DEGRADATION AND AMINO ACID METABOLISM

- Protein degradation. Ubiquitination, proteasome.
- Origin, transportation and amino acid balance. Metabolic fate of the amino group: deamination, transamination, urea cycle.
- Metabolic fate of the carboxyl group and the backbone of the amino acids.
- Biosynthesis of essential and non-essential amino acids.
- Biochemical basis of genetic disorders of amino acid metabolism.
- Folic acid and co-enzymes: structure and mechanisms of action
- The S-adenosyl methionine, as a means of methylation.

3. NUCLEOTIDE METABOLISM

- Nucleotide biosynthesis and degradation: Mechanisms and regulation.

- Biochemical basis of deregulation of nucleotide metabolism.
- Chemotherapy with nucleotide antimetabolites.

4. FLOW OF THE GENETIC INFORMATION

- DNA replication. Enzymes of replication- mechanisms. Point mutations, transitions, transversions,

replication inhibitors.
- DNA transcription. Initiation, elongation and termination. Inhibition of RNA biosynthesis. Post-transcriptional processing. RNA interference. Ribozymes, Riboswitches
- Protein biosynthesis. Activation of amino acids. Transfer RNA. Structure and function of Ribosomes. Initiation, elongation and termination of polypeptide chain biosynthesis. Regulation of protein biosynthesis. Post-translational modifications of polypeptides. Protein-synthesis inhibitors. Protein biosynthesis and cancer.

5. INTEGRATION AND REGULATION OF METABOLISM

- Caloric homeostasis. The key role of the brain in the caloric homeostasis.
- Obesity and diabetes. Exercise and biochemical changes. Metabolic changes originating from nutritional habits.
- The role of ethanol in liver function.

6. REGULATION OF GENE EXPRESSION IN EYKARYOTES

- Regulation of inducible gene expression in eukaryotes (regulatory DNA motifs/chromatin structure and remodeling/ types of transcription factors)

- Epigenetic factors and gene expression.
- The role of RNA in gene expression

7. BIOCHEMISTRY OF THE IMMUNE RESPONSE

- Structure and function of immunoglobulins. Immunoglobulin gene rearrangement and class switch.
- T cell subsets. Surface receptors of phagocytes and lymphocytes.
- Transplantation or histocompatibility reactions (MHC and HLA).
- Monoclonal antibodies. Antibodies that catalyze chemical reactions (catalytic antibodies).

LABORATORY CLASSES

1. Measurement of total and direct bilirubin in serum.
2. Measurement of urea and uric acid in serum.
3. Studying ribosomal biosynthetic capacity of *E.coli* measuring the incorporation of Phenylalanine into Poly(U) programmed ribosomes.

17. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD <i>Face-to-face, Distance learning, etc.</i>	Lectures, group tutorials with PBLs και laboratory exercises
USE OF INFORMATION AND COMMUNICATION	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to e-class

<p>TECHNOLOGIES Use of ICT in teaching, laboratory education, communication with students</p>		
<p>TEACHING ORGANIZATION The manner and methods of teaching are described in detail.</p> <p>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</p>	Activity	Semester workload
	Lectures 3h/week	39
	Tutorials, 2h for every week	26
	Laboratory classes	39
	Data analysis, interpretation and lab report	8
	Home work	38
	Total (hours)	150
<p>STUDENT ASSESMENT Description of the evaluation procedure</p> <p>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</p> <p>Specifically-defined evaluation criteria</p>	<p>Written examination (85% of the final grade) which includes:</p> <ol style="list-style-type: none"> 7. Multiple choice questions 8. Questions on the analysis of clinical cases 9. Questions combining theory and laboratory data analysis <p>Reports of laboratory classes (15% of the final grade), evaluation includes:</p> <ol style="list-style-type: none"> 7. Knowledge of the theory related to the experiments 8. Quality and validity of experimental results 	

are given, and if and where they are accessible to students

9. Data interpretation and conclusion

18. RECOMMENDED LITERATURE

5. Berg J.M., Tymoczko J.L. and Stryer L. Biochemistry 8th edition, 2015 W.H. Freeman and Company.
6. Baynes J.W., Dominiczak M.H. Medical Biochemistry, 4th edition, Saunders (2014). Βιοχημεία L. Stryer, 8th

CLINICAL BIOCHEMISTRY 3rd Year, 5th Semester (Optional)

Hours Teaching: - , Laboratory: 2 (per week)

ECTS units 4

Teachers D. Drinas, C. Stathopoulos G.Dinos, K. Nica, K. Grafanaki (Laboratory)

Description

COURSE OUTLINE

19. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_593	SEMESTER OF STUDIES	5 th

COURSE TITLE	CLINICAL BIOCHEMISTRY	
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures, seminars and laboratory work	4	4
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special Background	
PREREQUISITE COURSES:	No	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No	
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED821/ http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=107	

20. LEARNING OUTCOMES

Lerning outcomes <i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with</i>
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the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The course deals with the role of biochemical markers in diagnosis and management of diseases. The aim of this course is to introduce the students in the principles of modern analytical methods of clinical biochemistry that can help them to understand the metabolic disorders of human organism.

Upon completion of the course the students should be able to:

29. Comprehend in depth the methodologies employed in clinical biochemistry and be able to choose the appropriate laboratory-based tests for diagnosis and management of disease.
30. Update their background knowledge by following the latest developments in the literature
31. Reach decisions not solely based on the accumulation and interpretation of data, but also after taking under consideration bioethical issues.
32. Utilize the knowledge and understanding they have acquired to form a professional attitude towards their work, develop well-documented arguments and the ability for trouble-shooting.
33. Be able to communicate information, ideas, problems and solutions of both qualified and non-specialized audiences.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Team work</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	
<i>Production of new research ideas</i>	
<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	
<i>Project design and management</i>	
<i>Decision-making</i>	
<i>Team work</i>	
<i>Working independently</i>	
<i>Working in an interdisciplinary environment</i>	
<i>Production of free, creative and inductive thinking</i>	
<i>Promote free, creative and inductive thinking</i>	
<i>Respect for the natural environment</i>	

21. COURSE CONTENT

LECTURES

1. Introduction to laboratory-based analytical methods.
2. Organization, equipment and safety in a clinical chemistry laboratory. Selection and development of an analytical methods.
3. Principles of analytical methods: spectrophotometry, electrochemistry, electrophoresis, clinical enzymology, immunochemistry, mass spectrometry and microarrays.
4. Enzymatic analytical methods using either endpoint or kinetic method. Coupled

reactions and automatic analyzers. Evaluation of laboratory results. Quality control and reference values. Quality control programs.

5. Acid-base homeostasis, homeostasis of water, buffers for the blood and their disorders. Definition of electrolytes, and their disorders.
6. Disorders of carbohydrates, lipids, proteins, nucleotides and haemoprotein (porphyrins) metabolism.
7. Laboratory tests for renal, hepatic, cardiac and gastrointestinal function.

22. TEACHING AND LEARNING METHODS - ASSESSMENT

<p style="text-align: center;">TEACHING METHOD</p> <p><i>Face-to-face, Distance learning, etc.</i></p>	Lectures, group tutorials , preparation and presentation of literature reviews.	
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</p> <p><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to e-class	
<p style="text-align: center;">TEACHING ORGANIZATION</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic</i></p>	<p>Activity</p>	<p>Semester workload</p>
	Lectures, 2h/week	26
	Tutorials, 2h/week	24
	Laboratory classes	
	Data analysis, interpretation and lab report	10
	Homework	40
	Total (hours)	100

<p><i>creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	
<p>STUDENT ASSESMENT <i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students</i></p>	<p>A. Written examination which includes:</p> <ol style="list-style-type: none"> 10. Multiple choice questions 11. Questions on the analysis of clinical cases 12. Questions combining theory and laboratory data analysis 13. Interpretation of laboratory data <p>B. <i>written work and public presentation</i></p>

23. RECOMMENDED LITERATURE

<ol style="list-style-type: none"> 1. Clinical Chemistry, 3rd Edition, William Marshall, Mosby 2000. 2. Clinical Chemistry, 6th Edition, William Marshall and Stephen Bangert, Mosby, 2008. 3. Clinical Biochemistry, 4th Edition, Allan Gaw, Michael J. Murphy, Robert A. Cowan, Denis St. J.
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DEPARTMENT OF GENERAL BIOLOGY

Address Laboratories of Preclinical Research Building
University Campus (Rio) Patra
Tel.: 2610-997422, 2610-997536, Fax: 2610-997422

LABORATORY STAFF

Director Prof. Nicholas Moschonas

Professors Ioannis Zarkadis, Zoi Lygerou

Associate Professors Adamantia Papachatzopoulou*

Assistant Professors -

Lecturers -

Laboratory Teaching Staff Dr. Eleni Sakkoula

Technical Laboratory Staff Dr. Panagiotis Karachalios

*Also, participating in Integrated learning program part I

BIOLOGY I 1st Year, 1st Semester (Mandatory)

Hours Teaching: 3 hours/ week, Laboratory: 3 hours/ 4 weeks/ student, Tutorials: 3 hours / 4 weeks/ student, Small Group Teaching (15-17 students/ group): once / semester, 3 hours/ student

ECTS units 7

Lecturers N.Moschonas, I. Zarkadis, Z. Iygerou, A. Papachatzopoulou, E. Sakkoula (laboratory).

COURSE OUTLINE

24. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MD_111	SEMESTER OF STUDIES	1st
COURSE TITLE	BIOLOGY I		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures		3	7
Laboratory work/tutorials/small group teaching		3	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
COURSE TYPE <i>general background,</i>	<ul style="list-style-type: none"> • General knowledge 		

<i>special background, specialised general knowledge, skills development</i>	<ul style="list-style-type: none"> • Scientific area
PREREQUISITE COURSES:	None .
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES, with literature support provided by: (a) internationally acclaimed text books, (b) educational material offered at e-class, (c) current review articles on the topics of “small group teaching”.
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/modules/course_description/?course=MED800

25. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

In BIOLOGY I, basic principles of molecular and cellular biology are being taught.

The aims of the course are:

- To permit an understanding of the central concepts of cellular and molecular biology and of the key experimental findings which support them
- To allow students to appreciate the complexity of biological systems and the importance of modern molecular biology technologies for their study
- To underline the importance of the regulation and aberrations of molecular pathways in cells for disease etiology and manifestation

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender

<i>Decision-making</i>	<i>issues</i>
<i>Working independently</i>	<i>Criticism and self-criticism</i>
<i>Team work</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an international environment</i>	
<i>Working in an interdisciplinary environment</i>	
<i>Production of new research ideas</i>	

Ability to search, analyze and combine data and information by using available technologies (including practical lab work, analyzing research articles and reviews, resources from the internet and relevant databases, and analyzing biological data using bioinformatics tools).

Develop skills for autonomous (independent) work, group work, and learn how to pose scientific questions and critically discuss with peers. Promotion of free, creative and inductive thinking.

26. COURSE CONTENT

The course covers central biological principles and mechanisms which govern cellular function at the molecular level.

Topics include :

- Introduction to molecular and cellular biology.
- Biological macromolecules
- The cell: energy conversions in the cell, cellular compartments and organelles
- Cellular membranes, intra- and extra- cellular transport, the cytoskeleton
- DNA as the genetic material: structure and expression
- DNA replication, DNA damage, repair mechanisms and mutations
- Chromosomes and the regulation of gene expression

- Cell signalling
- Cell division, mitosis-meiosis, cell cycle control

27. TEACHING AND LEARNING METHODS - ASSESSMENT

<p>TEACHING METHOD <i>Face-to-face, Distance learning, etc.</i></p>	Lectures, tutorials, laboratory work, small group teaching		
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Use of Information and Communication Technologies (ICTs) in teaching, including electronic presentations and notes, use of videos and animations, extensive links to relevant educational and research webpages and videos on e-class, use of e-class for student assignment submission and marking. In addition, through lab work, students familiarize themselves with bioinformatics tools and databases. All course lectures, study material, educational videos and links are uploaded on e-class, from where they are freely available to students.		
<p>TEACHING ORGANIZATION <i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<p>Activity</p>	<p>Semester's work load</p>	
	Lectures and study	106	
	Small group teaching, study and analysis of literature topics, individual essay writing	54	
	Laboratory work combining theory and experimental work; written test and extensive report submission for each module.	36	
<p>Total number of hours for the Course (25 hours of work-load per ECTS credit)</p>	<p>196 (/7 = 28)</p>		

<p style="text-align: center;">STUDENT ASSESSEMENT</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students</i></p>	<ol style="list-style-type: none"> 1. Final exams (75%), include: <ul style="list-style-type: none"> ○ Multiple choice, matching or true-false tests with short justification ○ Short Essay questions, including questions of critical thinking ○ Problem-based questions, including clinically relevant problems 2. Laboratory work evaluation (25%), includes: <ul style="list-style-type: none"> ○ A short test taken at the time of the practical. ○ A lab report on experimental data and evaluation of the results of each practical. ○ A literature essay relevant to the “small group teaching” topic.

28. RECOMMENDED LITERATURE

<p>7. Essential Cell Biology, 3rd Edition, by Alberts et al, BROKEN HILL Publishers, Greek translation, ISBN: 978-9963-258-27-7</p>
<p>8. The Cell, a molecular approach, 5th edition, G.M. Cooper, R.E. Hausman, Greek translation, Academic Publishers</p>

Basdra and co, ISBN: 978-960-99895-8-9

9. "Laboratory protocols and resources" booklet, authored by faculty members of the Lab. of General Biology, U. of Patras Publications Centre, Patras.
10. "Small group teaching" booklet, authored by faculty members of the Lab. of General Biology, U. of Patras Publications Centre, Patras.

Description

BIOLOGY II 1st Year, 2nd Semester (Mandatory course)

Hours Teaching: 3 hours/ week, Laboratory: 3 hours/ 4 weeks/ student, Tutorials: 3 hours / 4 weeks/ student, Teaching in groups (15-17 students/ group): once / semester, 3 hours/ student

ECTS Units 6

Lecturers N.Moschonas, I. Zarkadis, Z. Iygerou, A. Papachatzopoulou, E. Sakkoula (laboratory).

COURSE OUTLINE

29. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_211	SEMESTER OF STUDIES	SECOND
COURSE TITLE	BIOLOGY II		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures,	3	6	
Laboratory work/tutorials/teaching in small groups	3		
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	<ul style="list-style-type: none"> • General (necessary theoretical) knowledge • Field of Science 		
PREREQUISITE COURSES:	Typically, there are not prerequisite courses .		

TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Offered, with literature support provided by: (a) internationally well-known text books, (b) educational material offered at e-class web-page of the course, (c) current review articles relevant to the topics of the “small group teaching” topic(s).
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/modules/course_description/?course=MED802

30. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>

BIOLOGY II is the introductory course on the current concepts of medical genetics in association with data and information recently developed due to the powerful technologies and molecular tools for the analysis of the genetic material and the cell, the high-throughput technologies for genome analysis and the evaluation of omic data by bioinformatics tools. Teaching material aims to introduce students in the basics of medical genetics, in methodologies of analyzing the genetic material (at the gene or chromosome level) and cells, in order the student to understand the structure and function association, the nature of genetic variation, and the patterns of genetic information transmission and its contribution with the phenotype or the clinical picture of the patient. This course offers an important conceptual framework for understanding in depth the subject of courses and clinical training offered in succeeding semesters dealing with disease pathogenesis, manifestation and treatment.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

- | | |
|---|---|
| <i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> | <i>Project planning and management</i> |
| <i>Adapting to new situations</i> | <i>Respect for difference and multiculturalism</i> |
| <i>Decision-making</i> | <i>Respect for the natural environment</i> |
| <i>Working independently</i> | <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> |
| <i>Team work</i> | <i>Criticism and self-criticism</i> |
| <i>Working in an international environment</i> | <i>Production of free, creative and inductive thinking</i> |
| <i>Working in an interdisciplinary environment</i> | |
| <i>Production of new research ideas</i> | |

By the end of this course the students may have developed certain skills:
 Ability to search, analyze and put together data and information on current medical molecular genetics issues by using all available resources including research articles and reviews, resources from the internet and relevant databases, and by analyzing genetic data using bioinformatics tools.
 Furthermore, the students will have developed the following general abilities: Searching, analyzing and synthesizing data and information; familiarity with the basic principles of medical molecular genetics; ability to understand the molecular basis of a number of inherited and multifactorial disorders and explain

the pattern of inheritance of mendelian diseases. Develop skills for autonomous (independent) work, group work, and learn how to put questions and critical discuss relevant issues with peers. Promotion of free, creative and inductive thinking.

31. COURSE CONTENT

The main goals of the course include: (a) understanding of the key concepts of medical molecular genetics and the arguments supporting its fundamental contribution to clinical medicine, (b) understanding, in particular, the concepts of the molecular basis of genetic disease and (c) the value of using advanced molecular genetics, cytogenetics and recombinant DNA technologies for tackling issues on how the human genetic composition causes or is associated with the manifestation of genetic (genic and chromosomal) disorders. The teaching material of the course deals with the basic concepts and processes associated of the molecular genetic background of single-gene and multifactorial pathogenicity, cancer genetics, the patterns of mendelian inheritance, the nature of genetic transmission and predisposition of multifactorial disorders, the genetic variation, population genetics and evolutionary mechanisms.

The following topics are included:

- Introduction to medical genetics
- Recombinant DNA technology
- Patterns of monogenic disease inheritance
- Genetic diversity. Polymorphisms of genomic DNA as disease markers
- Polygenic/multifactorial disorders
- Models of genetic diseases: molecular pathology
- Genomic Medicine: The contribution of human genomics in biomedicine

- Clinical cytogenetics: autosomal-sex chromosome aberrations; methods of analysis
- Regulation of cell proliferation, apoptosis, genetics of cancer
- Genetic evolution
- Population genetics

32. TEACHING AND LEARNING METHODS - ASSESSMENT

<p>TEACHING METHOD <i>Face-to-face, Distance learning, etc..</i></p>	Lectures, tutorials, laboratory work face to face and teaching in small groups	
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The lectures content of the course for each entity are uploaded on the internet, in the form of a series of .ppt files. The students can freely download the material using a password provided at the beginning of their undergraduate studies.	
<p>TEACHING ORGANIZATION <i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<p>Activity</p>	<p>Semester's work load</p>
	Lectures and study	90
	Small group teaching, study and analysis of the literature topic, essay writing of each individual student	45

	Laboratory work to combine theory with experimental work; written test and extensive report submission for each individual student.	33	
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	168 (/6 = 28)	
<p>STUDENT ASSESMENT</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students</i></p>	<p>3. Final exams (75%), include:</p> <ul style="list-style-type: none"> ○ Multiple choice or matching tests including a short justification of the student's answer ○ Essay questions ○ Problem-based questions <p>4. Laboratory exercise evaluation (25%), include:</p> <ul style="list-style-type: none"> ○ A short test report given by the students concurrently with the laboratory exercise. ○ An essay on the experimental data and evaluation of the results of the laboratory work. ○ A literature essay relevant to the "small group teaching" topic. 		

33. RECOMMENDED LITERATURE

11.1. Thompson & Thompson “Genetics in Medicine” RL Nussbaum, RR McInnes, H.F. Willard, 7 th Edition, Translation in the Greek language, 2 nd Edition, Broken Hill Publications. ISBN: 978-960-489-062-0.
12.2. Genetics in Medicine, George H. Sack, the Greek language edition, (2002), Editor: Parisianos’ Scientific Editions. ISBN:960-394-141-7.
13.3. “Laboratory protocols and resources” booklet, authored by the faculty members of the Lab. of General Biology, U. of Patras Publications Centre, Patras.
14.4. “Small group teaching” booklet, authored by the faculty members of the Lab. of General Biology, U. of Patras Publications Centre, Patras.

MEDICAL 3rd Year, 5th Semester (Optional)

GENETICS

Hours Teaching: - , Laboratory: 2, Tutorials: - (per week)

ECTS units 4

Lecturers N. Moschonas, I. Zarkadis, Z. Lygerou, A. Papachatzopoulou

Description

COURSE OUTLINE

34. GENERAL

SCHOOL	HEALTH SCIENCES
DEPARTMENT	MEDICINE
LEVEL OF THE	UNDERGRADUATE

COURSE		
COURSE CODE	MED_592	FIFTH
COURSE TITLE	MEDICAL GENETICS (elective course)	
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		
Lectures, Seminars & Laboratory work	2	4
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science	
PREREQUISITE COURSES:	None, However students should possess adequate knowledge provided through the previously taught course on medical genetics ("BIOLOGY II", MED 801).	
TEACHING AND ASSESSMENT LANGUAGE:	GREEK	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes, with literature support provided by: (a) internationally well-known text books,(b) current review articles relevant to the topics of the course, and (c) educational material offered at the course e-class web-page.	
COURSE WEBPAGE (URL) (URL)	https://eclass.upatras.gr/courses/MED812/	

35. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

This elective course is an advanced course of medical molecular genetics and may be considered as an extension of the “Biology II” course taught in the second semester. Its goal is to present and analyze in some detail, the human genetic variation, the patterns of inheritance and the analysis of the structural and functional characteristics of products encoded by the genetic material, as well as the molecular mechanisms which are causally relevant or associated with disease manifestation or predisposition. The course is focused on the fundamental knowledge and achievements of current medical molecular genetics and genomics; it deals with (a) data and current information produced by either conventional approaches or high-throughput technologies in relation to the architecture of the genetic material in health and disease, (b) big data production, storage and exploitation by using bioinformatics tools, and (c) the annotation of informative biomolecules (genes and proteins).

With the active participation of the students, the instructors discuss issues concerning the determination of the functional role of genes or other elements involved in genetic diseases, their relevance with the clinical features, the methodologies for precise molecular diagnosis, the detection and consequences of chromosome aberrations in human health, the current approaches and knowledge for understanding the molecular basis of cancer, gene therapy methods and achievements, as well as issues of functional genomic and proteomic analysis.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

By the end of this course the students may have developed certain skills:

- Ability to search, analyze and put together data and information on current medical molecular genetics issues by using all available resources including research articles and reviews, resources from the internet and relevant databases, and by analyzing data using bioinformatics tools.

- Ability to compose essays and reports with clarity and completeness, to be able to present orally a medical genetics issue in brief, and discuss productively, freely and critically in the class.

36. COURSE CONTENT

The “Medical Genetics” elective course is focused on the way genetic factors and inheritance contribute to the manifestation or predisposition of disease. The fact that more than 30% of the hospitalized children suffer because of the expression of a genetic disorder, suggests the significant contribution of heredity in disease manifestation. Genetic diseases may be expressed in all ages, independently of sex, population group, or geographical descent. Some disorders, like cardiovascular diseases, diabetes, neurological diseases, etc. are expressed in high frequency and are associated with aberrations of the normal spectrum of genetic variation. Recent achievements of molecular biology, genetics and genomics including the Human Genome Project, one of the great feats of exploration in the history of modern biology concerning chromosome mapping and sequencing of the entire human genome, the construction of genic maps and gene annotation, and the rapidly evolving functional analyses of the genetic material, have tremendously increase the rate of determination of numerous genetic factors associated with disease, the investigation of the biological role of genes –one at a time or in the context of gene networks-, and how gene dysfunction contributes to disease manifestation in the context of the inherent genetic variation and environment.

The content of the course is covered by the following topics:

- Introduction to advanced medical molecular genetics and genomic analysis.

- The genetic background of disease.

- Protein structure and function.

- Molecular diagnosis, current advanced in (a) small scale, and (b) high-throughput technologies.

- Chromosomal aberrations: presentation of characteristic cases, application of advanced methods of clinical cytogenetics.

- Integrated approaches for genetic disease analysis with the use and interpretation of high-throughput technologies.
- Cancer genetics, a molecular cell biological approach.
- Introduction to regenerative medicine and gene therapy protocols.

37. TEACHING AND LEARNING METHODS - ASSESSMENT

<p>TEACHING METHOD <i>Face-to-face, Distance learning, etc</i></p>	<p>Lectures, discussions, video lectures in the class, and oral presentations by the students.</p>									
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The lectures content of the course for each entity are uploaded on the internet, in the form of a series of .ppt files. The students can freely download the material using a password provided at the beginning of the course.</p>									
<p>TEACHING ORGANIZATION <i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<table border="1"> <thead> <tr> <th>Activity</th> <th>Semester's work load</th> </tr> </thead> <tbody> <tr> <td>Lectures and relevant discussions with the students</td> <td>50</td> </tr> <tr> <td>Critical study of the literature, essay writing and submission, oral presentation of the essay in each one of the topics of the course.</td> <td>62</td> </tr> <tr> <td>Total number of hours for the Course (25 hours of work-load per ECTS credit)</td> <td>112 : 4 = 28</td> </tr> </tbody> </table>		Activity	Semester's work load	Lectures and relevant discussions with the students	50	Critical study of the literature, essay writing and submission, oral presentation of the essay in each one of the topics of the course.	62	Total number of hours for the Course (25 hours of work-load per ECTS credit)	112 : 4 = 28
Activity	Semester's work load									
Lectures and relevant discussions with the students	50									
Critical study of the literature, essay writing and submission, oral presentation of the essay in each one of the topics of the course.	62									
Total number of hours for the Course (25 hours of work-load per ECTS credit)	112 : 4 = 28									
<p>STUDENT ASSESSEMENT <i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination,</i></p>	<p>Essay writing and submission, oral presentation of the essay. Evaluation by each one of the instructors. Criteria: (a) The clarity and completeness of the essay and the relevant oral presentation, (b) The overall participation of the student to the discussions in the class. For the final evaluation of the student, the work load of each topic is taken into consideration.</p>									

public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students

38. RECOMMENDED LITERATURE

- Thompson & Thompson "Genetics in Medicine" RL Nussbaum, RR McInnes, H.F. Willard, 7th Edition, Translation in the Greek language, 2nd Edition, Broken Hill Publications. ISBN: 978-960-489-062-0. (suggested as a reference book).
- Scientific review articles from the relevant current international literature.
- Video lectures given by scientists of international caliber in relevant medical molecular genetics and genomics topics.

DEPARTMENT OF MEDICAL PHYSICS

Address Preclinical Research Building
University Campus (Rio) Patra
Tel.: 2610-997620, Fax: 2610-992496

LABORATORY STAFF

Director Prof. George Panagiotakis

Professors Anastasios Bezerianos, Eleni Costaridou, George Panagiotakis

Associate Professors George Sakellaropoulos, George Kagadis

Assistant Professors

Lecturers -

Supporting Teaching and Technical Staff Fotis Papathanasoroulos, Eleftherios Gortzis

MEDICAL PHYSICS 1st Year, 1st Semester (Mandatory)

Hours Teaching: 3, Laboratory: 3, Tutorials: - (per week)

ECTS units 7

Teachers A. Bezerianos, G. Panagiotakis. E. Costaridou, G. Kagadis, G. Sakellaropoulos

Description

COURSE OUTLINE

39. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_131	SEMESTER OF STUDIES	1 ^o
COURSE TITLE	MEDICAL PHYSICS		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures and Tutorials	6	7	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Scientific Course		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)	(course) https://eclass.upatras.gr/courses/MED853/ (practical) https://eclass.upatras.gr/courses/MED813/		

40. LEARNING OUTCOMES

Leraning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The aim of this course is the comprehension of the physical principles of Radiation Physics (both ionizing and non-ionizing) and Bioelectricity, and their application for the development of methods in diagnosis and therapy in Medicine, as well as the comprehension of functions of the human body, utilizing simulation methods.

The course provides the basic background knowledge in atomic and nuclear physics and in radiation-matter interaction, that is necessary for a broad range of diagnostic and therapeutic medical applications, as well as the radiation protection of patients and personnel.

The course is being taught through lectures, as well as tutorials and laboratory exercises addressed to small groups. Four (3-hour) tutorials take place addressing case-based learning and three (2-hour) laboratory exercises. In the latter, experimental apparatus is used for data acquisition, while data analysis is performed.

By the end of this course the student is expected to:

- comprehend and be familiarized with the basic concepts and principles of Radiation Physics, related to processes and technology of diagnosis and therapy in Medicine.
- comprehend functions of the human body.
- comprehend the concepts of measurement, experimental error and data analysis.
- develop skills in using experimental apparatus.
- develop critical thinking for solving complex problems and familiarize with the use of simulation methods.
- Comprehend the principles and significance of the radiation protection of patients and personnel in the medical environment.

General Abilities

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

- Search, analysis and synthesis of data and information, using the necessary technologies.
- Team work in a multidisciplinary environment.
- Promotion of f creative and critical thinking.
- Presentation of scientific reports.

41. COURSE CONTENT

- Bioelectricity (the nervous system and the neuron, electrical potential in neurons, electrical signals from muscles, electrical signals from heart, electrical signals from brain).
- Atomic and nuclear physics and radiation-matter interaction (model of Bohr and wave mechanics, excitation and ionization of atoms, constitution of nucleus - nuclear forces - nuclear fission and nuclear fusion, mechanisms and time interrelation of radioactive decay and emission, interaction of charged particles and photons of high energy with matter).
- Physics of Diagnostic Radiology (components of radiation imaging systems, projection and tomographic imaging systems, analog and digital image detectors, medical image quality).
- Physics of Nuclear Medicine (criteria for choosing radioisotopes in the differential diagnosis,

basic components of imaging systems, statistics in nuclear medicine).

- Physics of Radiation Therapy (teletherapy and brachytherapy, radiation therapy planning, radiation therapy with charged particles).
- Physics of Ultrasonography (wave characteristics, acoustic impedance, ultrasound-matter interaction, Dobbler effect, production and detection of ultrasound, ultrasound imaging, biological effects).
- Physics of Magnetic Resonance Imaging (nuclear magnetic resonance, relaxation times, gradient fields, magnetic resonance imaging, basic pulse sequences for image acquisition, influence of sequences on image quality).
- Radiation Protection (basic principles of radiation protection, units and methods of dosimetry, radiation protection of patient and personnel, legislation and guidelines of radiation protection).

42. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD <i>Face-to-face, Distance learning, etc..</i>	Lectures and laboratory work, face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Use of ICT in teaching, laboratory education, communication with students</i>	Specialized software for biomedical data statistical analysis Use of the e-class platform for the dissemination of class-material and communication with the tutor	
TEACHING ORGANIZATION <i>The manner and methods of teaching are described in detail.</i>		
	Lectures	39
	Tutorials	12

<p>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</p>	Practicals	6
	Preparation of practical projects	45
	Self-study	73
	Total	175
<p>STUDENT ASSESSEMNT</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students</i></p>	<p>Written examination</p> <p>Short response questions</p> <p>Problem solving</p> <p>Practical project</p>	

43. RECOMMENDED LITERATURE

BIOSTATISTICS1st Year, 1st Semester (Mandatory)**Hours**

Teaching: 2, Laboratory: -, Tutorials: 2 (per week)

ECTS units

3

Teachers

G. Sakellaropoulos

Description**COURSE OUTLINE****44. GENERAL**

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE			
COURSE CODE	MED_14 1	SEMESTER OF STUDIES	5
COURSE TITLE	BIOSTATISTICS		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures and Tutorials	4	3
COURSE TYPE	Field of Science (Biostatistics) and Skills Development (Data analysis)		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED806/		

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45. LEARNING OUTCOMES

Learning outcomes

The aim of this course is to create the basic statistical background for the comprehension of quantitative estimates and analytic methodologies that are being used in medical science.

The course is taught via lectures (in Amphitheatre) and tutorials with the use of personal computers. The lectures have theoretical character and the presented concepts are implemented through exercises within tutorials, using software for statistical analysis of medical and biological data (SPSS, Microsoft Excel, Graphpad Prism) and web pages with related data and methodologies from the Internet.

By the end of this course the student is expected to:

- Comprehend basic concepts of Statistics and the particularities of their implementation in the Biomedical domain
- Understand the possibilities of presenting descriptive statistics and to have the skills to make these presentations
- Have the knowledge of statistical reasoning and the capability of stating null hypotheses for the solution of real problems in the domain of Biostatistics
- Be able to apply biostatistical methods to real problems
- Be able to choose the appropriate statistical tests and perform them

- Be able to combine biostatistical concepts and methods for the solution of real problems
- Have acquired the skills of using specific software for biomedical data statistical analysis
- Be capable of critically assess the results from the application of statistical methods to specific problems and formulate conclusions

General Abilities

- Searching, analysis and synthesis of facts and information, as well as using the necessary technologies
- Decision making
- Autonomous (Independent) work
- Multidisciplinary work
- Production of novel research ideas
- Promotion of free, creative and inductive thinking

46. COURSE CONTENT

- Introduction to Biostatistics: The purpose of Biostatistics. Content of descriptive statistics and statistical inference. Basic concepts of statistics. Frequency and cumulative frequency. Qualitative results of statistical tests. Quantitative results of statistical experiments. Random variable. Frequency tables. Histograms. Representative values of frequency distribution. Sources of sampling variance and determination of the total standard deviation of the sample. Interpretation of the dispersion of clinical measurements.
- Definition of probability. Calculation of probabilities. The predictive value of the diagnostic test – Bayes Theorem. Medical applications. Generalization of the Bayes Theorem. Definition of random variable. Probabilities distribution of random experimental potential. Characteristic parameters of probability distributions. Probabilities distribution in Health Sciences. Binomial distribution. Normal distribution (Gaussian).
- Central Limit Theorem. Sampling error rate. Sampling error of the difference between two random variables. Standard error of the mean.
- Point estimation. Determination of the statistical parameters' confidence interval. Testing statistical hypotheses. Statistical test of the mean. Statistical comparison of the mean values of two different samples. Types of error in statistical inference. z-test. t-test. Statistical analysis of percentages. Inference for a sample rate. Inference for two sampling rates.
- Statistical power. The validity of the statistical test and its relationship with the sample size.
- Contingency tables and statistical tests based on the χ^2 distribution. Applications of χ^2 distribution with degrees of freedom more than one. Subdivision of contingency tables. Statistical comparison of two numbers.

- Conceptual difference between dependence and correlation. Least squares method. Use of straight lines of statistical dependence in the clinical forecast. Confidence interval of straight line. Linear factor of correlation.

47. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures and laboratory work, face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Specialized software for Biomedical data statistical analysis Use of the e-class platform for the dissemination of class-material and communication with the tutor	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	Lectures	26
	Tutorials	18
	Practicals	8
	Self-study	23
	Total	75
STUDENT ASSESSEMNT	Written examination Problem solving	

48. RECOMMENDED LITERATURE

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- Wassertheil-Smoller Sylvia, Biostatistics and Epidemiology: A Primer for Health and Biomedical Professionals, Springer 2004
- Armitage, P., Berry, G. and Mathews JNS (2002). Statistical Methods in Medical Research. 4th Edition. Blackwell Science
- Altman DG, Practical Statistics for Medical Research, Chapman & Hall/CRC Texts in Statistical Science 1990
- Bland M, An Introduction to Medical Statistics, Oxford Medical Publications 2000

**MEDICAL
INFORMATICS**

1st Year, 1st Semester (Mandatory)

Hours

Teaching: 2, Laboratory: -, Tutorials: 2 (per week)

ECTS units

5

Teachers

G. Sakellaropoulos, G. Kagadis

Description

COURSE OUTLINE

49. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_15 1	SEMESTER OF STUDIES	FIRST1st
COURSE TITLE	MEDICAL INFORMATICS		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures, seminars and laboratory work	4	5
COURSE TYPE	Background		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Available also in English for Erasmus+ studies students.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=7		

50. LEARNING OUTCOMES

Learning outcomes

-

The course is the basic introductory one in Medical Informatics. The currently available medical information, to which we now have almost instantaneous and free access, is enormous. This is due to its digital form and the creation of international transport networks. The 'Medical Informatics' course aims to bring students into biomedical information management methods and techniques, to help them identify useful information and combine them to develop knowledge.

Methodology

The lesson is taught through lectures at Amphitheater and small-group tutorials using PCs. The lectures are theoretical and presented concepts are specialized through the tutorials. The following issues are discussed in tutorials:

1. database creation software (Microsoft Access),
2. Medical image processing software (Analyze, Image Pro, ImageJ, Fiji),
3. software for statistical processing of medical & biological data (SPSS, GraphPad Prism),
4. decision tree software (DATA 3.0), and
5. medical decision support software (Iliad).

By the end of this course the student will be able to:

- Understand the concepts of image processing and analysis
- Understand the structure of a database and design simple databases
- Understand the process of making medical decisions under uncertainty
- express clinical problems in the form of decision trees and calculate the expected utility of alternative decisions

- use software for medical image processing and analysis, database developing, and medical decision support
- Understand the importance of Integrated Hospital Information Systems
- distinguish the importance of using Telemedicine to provide health services in under-served areas.

General Abilities

- Adapt to new situations
- Working in an interdisciplinary environment
- Promote free, creative, and inductive thinking

51. COURSE CONTENT

- i. Introduction & Nature of Medical Information
- ii. Databases
- iii. Image processing
- iv. Medical Information Systems / Networks
- v. Integrated Hospital Information Systems
- vi. Clinical Decision Making
- vii. Inference - Decision Trees
- viii. Telemedicine
- ix. Biomedical Informatics

52. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures and tutorials in a face to face manner.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Specialized image processing and analysis software, database creation, decision tree creation. Support Learning through the e-class e-class platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures (2 hours per week x 13 weeks)	26
	Tutorials (2 hours per week x 13 weeks)	26
	Hours for private study of the student and preparation of home-works	73
	<i>Total number of hours for the Course (25 hours of work-load per ECTS credit)</i>	<i>125 hours (total student work-load)</i>
STUDENT ASSESSEMNT	Written final exam includes: - Evaluation of theory data - solving problems related to information management issues	

53. RECOMMENDED LITERATURE

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DIVISION OF BASIC MEDICAL SCIENCES II

DEPARTMENT OF ANATOMY

Address Preclinical Research Building
University Campus (Rio) Patra
Tel.: 2610-969195, Fax: 2610-969178

LABORATORY STAFF

Director Prof. Helen Petrou-Papadaki

Professors Helen Petrou-Papadaki, Konstantinos Giftopoulos, Dionysios Papachristou Georgia Sotiropoulou

Associate Professors Martha Assimakopoulou, Vassiliki Bravou Konstantinos Giftopoulos, Dionysios Papachristou

Assistant Professors Spyridon Syggelos Vassiliki Bravou

Lecturers Spyridon Syggelos

Supporting Konstantinos Perpinias

**Teaching and
Technical
Staff**

*** Participating in Integration II**

Under the supervision of the Department of Anatomy, the following courses are being taught. Anatomy I, II, Neuroscience, Histology and Embryology I, II and Clinical Anatomy of Kidney-Molecular Anatomy (optional). In these courses particular emphasis is given on the relevance between the function of the human body and the clinical knowledge that the student acquires.

In the first semester the student is being familiarized with the human anatomy, the construction of the cell and body tissues and the General Embryology. The second semester includes the courses of Systematic Anatomy, Histology and Embryology. The third semester includes, Topographic Anatomy and Histology and Embryology of the organs and body systems. Special effort is being made to ensure that the teaching of Anatomy, Histology and Embryology of various organs is happening simultaneously. Neuroanatomy is

being taught separately and a special series of laboratory exercises and tutorials supplement the course. In each semester a number of tutorials of Applied Anatomy, Histology and Embryology supplement the lectures. This is for the student to learn how to apply the anatomical knowledge in clinical practice. In laboratories of Anatomy students study fresh samples of bones, anatomical models, x-rays, slides and films related to the subject of each laboratory hour. In the laboratory of Histology students study collections, each of which includes about 100 microscopic samples from various tissues and organs.

ANATOMY I 1st Year, 2nd Semester (Mandatory)
Hours Teaching: 3 Laboratory: 3, Tutorials: - (per week)
ECTS units 6
Teachers E. Petrou-Papadaki, M. Assimakopoulou, K. Giftopoulos, D. Papachristou, V. Bravou, S. Syggelos

Description

COURSE OUTLINE

54. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED 231	SEMESTER OF STUDIES	SECOND
COURSE TITLE	ANATOMY I		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, tutorials/laboratory exercises.	3 (lect.) 3(lab.)	6	

COURSE TYPE	BASIC KNOWLEDGE	
PREREQUISITE COURSES:	None	
TEACHING AND ASSESSMENT LANGUAGE:	Greek.	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No	
COURSE WEBPAGE (URL)	https://eclass.upatras.gr	

55. LEARNING OUTCOMES

Leraning outcomes
<p><u>Introduction to the basics</u></p> <p>The student is given all the basic knowledge of Anatomy, which is mandatory for understanding the morphology and the function of the human body</p> <p><u>Musculoskeletal system</u></p> <p>The student has to study and understand the gross anatomy of the skeletal and muscular system including the vessels and the nerves which are related to these systems. Emphasis to the functional and clinical anatomy is given in order the student to be able to use all the knowledge to clinical praxis, during the following years of the studies.</p>
General Abilities

Search, analyse and present data and information, using the appropriate technologies.

Decision making

Independent or team work

56. COURSE CONTENT

Introduction to anatomy of the human body

- Principles of morphology and formation of the Human body, Cells- Extracellular matrix, Cell adhesion ,Tissues, Solid and Hollow organs
- Anatomical vocabulary, anatomical descriptive terms, Anatomical position of the human body, planes and axes of the body, Body cavities, epithelial tissue and serous membranes.

Introduction to systems of the human body

Introduction to the cardio-vascular system

Introduction to the Nervous System (Part 1)

Introduction to the Nervous System (Part 2)

A. Introduction to musculoskeletal system

- History: From Vesalius up to molecular Anatomy.
- Musculoskeletal system and art
- General principles of the organization of the musculoskeletal system. Muscular and skeletal function
- Structure and function of ligaments, tendons, fascia and aponeurosis. Morphology, types and function of joints
- Histology and molecular biology of cartilage and bony tissue
- Basic principles of radiological imaging of the musculoskeletal system
- Introduction to clinical anatomy - correlation with basic pathology (e.g. arthritis, fractures, osteoporosis)
- Basic principles of molecular mechanisms which are implicated in embryology, development and pathology of common

musculoskeletal system disorders

B. Radiological imaging of the musculoskeletal system

- Plain x-rays
- Computed tomography (CT)
- MRI imaging
- Virtual Anatomy

C. Clinical Anatomy and topography

- Upper limb, Lower limb, skull, spine, anatomy of the body wall

D. CLINICAL AND SURFACE ANATOMY

- Buttock region (hip joint, muscles, vessels, nerves)
- Thigh (femoral bone, muscles, vessels, nerves)
- Knee (knee joint, muscles, vessels, nerves)
- Calf region (bones, anatomical compartments, muscles, vessels, nerves).
- Foot and ankle (ankle joint, small joints of the foot, muscles, vessels, nerves).
- Clinical and imaging correlations
- Surface anatomy of lower limb
- Shoulder region (Joints, muscles, vessels, nerves)
- Arm region (humerus, muscles, vessels, nerves)
- Elbow (Joints, muscles, vessels, nerves)

- Forearm (bones, anatomical compartments, muscles, vessels, nerves)
- Hand and wrist (wrist joint, small joints of the hand, muscles, vessels, nerves)
- Clinical and imaging correlations
- Surface anatomy of upper limb

AXIAL SKELETON

- Skeleton of the skull (Cranial bones-cranium and skeleton of the face, inner and outer surfaces, mandible, articular surfaces for mandible and first cervical vertebra).
- Temporo-Mandibular joint: Articulated bones, articular surfaces, type of joint, ligaments and movements
- Spine: Parts and spinal curves. Anatomy of the vertebra: body, lamina (pedicles, lamina, processes), vertebral foramen. Special characteristics of vertebrae according to their position in spine (cervical, thoracic e.t.c.). Sacrum and coccyx. Joints between vertebrae, skull and pelvis. Joint type, bones and articular surfaces, movements. Ligaments of the spine. Movements of the spine. Intervertebral discs: structure and function. Imaging of the spine.
- Mimic muscles.
- Masseter muscles.
- Muscles of the back.
- Clinical anatomy of the axial skeleton: (Fractures and dislocations, abnormal spinal curves (scoliosis, lordosis), lumbar puncture, disk hernia).

57. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures, tutorials and laboratory work face to face.
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USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, virtual anatomy) in teaching and communicating with students. All teaching and supplementary files are available in e-class platform.	
TEACHING ORGANIZATION	Activity	Work load
	Lectures	42
	Tutorials/Laboratory exercises.	42
	Hours of private study	66
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	150hours (total student work-load)
STUDENT ASSESSEMNT	Written examination at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving) Minimum passing grade: 5. The examination documents are retained for 5 years and are available to students.	

58. RECOMMENDED LITERATURE

Clinical Anatomy. Richard Snell
Clinically orientated Anatomy by Moore-Dalley-Agur

AIM

Introduction to the basics

The student is given all the basic knowledge of Anatomy, which is mandatory for understanding the morphology and the function of the human body

Musculoskeletal system

The student has to study and understand the gross anatomy of the skeletal and muscular system including the vessels and the nerves

which are related to these systems.

Emphasis to the functional and clinical anatomy is given in order the student to be able to use all the knowledge to clinical praxis, during the following years of the studies.

METHODOLOGY

Part 1 of Anatomy is taught:

1. Through tutorials in amphitheater, where clinical anatomy is thoroughly analyzed using clinical examples and cases
2. Through laboratory sessions (the students are organized in working subgroups), where the students can study: a) fresh human anatomy specimens, b) anatomical models, c) Radiological Anatomy (x-rays, ultrasound, CT and MRI scan images) which helps the student to understand the three-dimensional structure of the human body and the explanation of the new radiological imaging techniques d) Surface anatomy and clinical examination e) Virtual anatomy using modern anatomical software

Contents

Introduction to anatomy of the human body

- Principles of morphology and formation of the Human body, Cells- Extracellular matrix, Cell adhesion ,Tissues, Solid and Hollow organs
- Anatomical vocabulary, anatomical descriptive terms, Anatomical position of the human body, planes and axes of the body, Body cavities, epithelial tissue and serous membranes.

Introduction to systems of the human body

Introduction to the cardio-vascular system

Introduction to the Nervous System (Part 1)

Introduction to the Nervous System (Part 2)

A. Introduction to musculoskeletal system

- History: From Vesalius up to molecular Anatomy.
- Musculoskeletal system and art
- General principles of the organization of the musculoskeletal system. Muscular and skeletal function
- Structure and function of ligaments, tendons, fascia and aponeurosis. Morphology, types and function of joints
- Histology and molecular biology of cartilage and bonny tissue
- Basic principles of radiological imaging of the musculoskeletal system
- Introduction to clinical anatomy - correlation with basic pathology (e.g. arthritis, fractures, osteoporosis)

- Basic principles of molecular mechanisms which are implicated in embryology, development and pathology of common musculoskeletal system disorders

B. Radiological imaging of the musculoskeletal system

- Plain x-rays
- Computed tomography (CT)
- MRI imaging
- Virtual Anatomy

C. Clinical Anatomy and topography

- Upper limb, Lower limb, skull, spine, anatomy of the body wall

D. CLINICAL AND SURFACE ANATOMY

- Buttock region (hip joint, muscles, vessels, nerves)
- Thigh (femoral bone, muscles, vessels, nerves)
- Knee (knee joint, muscles, vessels, nerves)
- Calf region (bones, anatomical compartments, muscles, vessels, nerves).
- Foot and ankle (ankle joint, small joints of the foot, muscles, vessels, nerves).
- Clinical and imaging correlations
- Surface anatomy of lower limb
- Shoulder region (Joints, muscles, vessels, nerves)
- Arm region (humerus, muscles, vessels, nerves)
- Elbow (Joints, muscles, vessels, nerves)
- Forearm (bones, anatomical compartments, muscles, vessels, nerves)
- Hand and wrist (wrist joint, small joints of the hand, muscles, vessels, nerves)
- Clinical and imaging correlations
- Surface anatomy of upper limb

AXIAL SKELETON

- Skeleton of the skull (Cranial bones-cranium and skeleton of the face, inner and outer surfaces, mandible, articular surfaces for mandible and first cervical vertebra).
- Temporo-Mandibular joint: Articulated bones, articular surfaces, type of joint, ligaments and movements

- Spine: Parts and spinal curves. Anatomy of the vertebra: body, lamina (pedicles, lamina, processes), vertebral foramen. Special characteristics of vertebrae according to their position in spine (cervical, thoracic e.t.c.). Sacrum and coccyx. Joints between vertebrae, skull and pelvis. Joint type, bones and articular surfaces, movements. Ligaments of the spine. Movements of the spine. Intervertebral discs: structure and function. Imaging of the spine.
- Mimic muscles.
- Masseter muscles.
- Muscles of the back.
- Clinical anatomy of the axial skeleton: (Fractures and dislocations, abnormal spinal curves (scoliosis, lordosis), lumbar puncture, disk hernia).

ANATOMY II 2nd Year, 3rd Semester (Mandatory)

Hours Teaching: 3 , Laboratory: 3, Tutorials: - (per week)

ECTS units 8

Teachers H. Papadaki -Petrou, M. Asimakopoulou, V. Bravou, K. Giftopoulos, S. Syggelos

Description

ANATOMY II

COURSE OUTLINE

59. GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDRGRADUATE		
COURSE CODE	MED311	SEMESTER OF STUDIES	3 ^d
COURSE TITLE	ANATOMY II		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS	ECTS CREDITS

	PER WEEK	
LECTURES (4hrs) AND LABORATORY EXERCISES(3 hrs)	7	8
COURSE TYPE	BASIC KNOWLEDGE	
PREREQUISITE COURSES:	NONE	
TEACHING AND ASSESSMENT LANGUAGE:	GREEK	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO	
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED883/	

60. LEARNING OUTCOMES

Leraning outcomes
<p>The ANATOMY II course includes teaching of the basic principles of Clinical, Systematic and Topographic Anatomy necessary for Medical Students. At the end of the course the students should be able to use the acquired knowledge in order to:</p> <ol style="list-style-type: none"> 1. Understand the basic principles of disease related to different systems and regions of the body 2. Combine basic Anatomical knowledge with relevant knowledge of other Clinical topics 3. Analyze and synthesize clinical information through physical examination of the patient in certain clinical problem settings (Problem-Based Learning) 4. Use Surface Anatomy principles and landmarks during physical examination 5. Apply basic Surface Anatomy principles in simple procedures (eg catheterization, paracentesis etc) 6. Understand the principles of basic surgical procedures and be able to participate in hands-on training during Clinical

Surgical electives in the future.

General Abilities

Generally, by the end of this course the student will have developed the following general abilities (from the list above):

Search, analysis and synthesis of facts and information, as well as use of the necessary technologies

Decision making

Autonomous (Independent) work

Group work

61. COURSE CONTENT

CLINICAL TOPOGRAPHIC ANATOMY

HEAD AND NECK

- Skull bones and joints. The cranial cavity. Cervical vertebrae.
- Cranial nerves.
- Cervical nerves, the brachial plexus.
- The autonomic system in the head and neck region.
- Muscles, arteries, veins and lymph drainage in the head and neck.
- The scalp (layers, vessels, lymph drainage and innervation).
- The face.

- Parts of the digestive system in the head and neck (oral cavity, tongue, palate, salivary glands, the pharynx, oesophagus).
- Parts of the respiratory system in the head and neck (nose, nasal sinuses, larynx, and trachea).
- Endocrine glands of the head and neck (pituitary gland, thyroid, parathyroids)
- The eye, the ear.
- The temporal fossa, the orbit, the infratemporal fossa, the pterygopalatine fossa, the parotid area, the mandibular joint, the submandibular area.
- Trigones of the neck.
- Surface anatomy of the head and neck.
- The meninges, venous sinuses. Haemorrhages. The brain.

THORAX

- The chest wall, thoracic cavity and diaphragm. Diaphragmatic orifices. The intercostal space (clinical implications on chest drainage). The mediastinum (anatomical structures and organs). Position of the thoracic organs and their relations. Nerve supply and lymphatic's of the thorax. Clinical implications.
- The great vessels (ascending aorta, pulmonary trunk, aortic arch, brachiocephalic and subclavian arteries, superior vena cava, the azygos system).
- The axillary region. The breast. Disposition and relations on the chest wall. The mammary glands. (Blood supply, lymph drainage, clinical importance).
- Surface anatomy of the thorax. Clinical examination of the chest. Surface anatomy landmarks for the lung and heart. Position of heart valves

- Radiological anatomy of the thorax. CT/MRI scans – transverse sections. Virtual anatomy.

ABDOMEN

- Anatomical structures of the posterior abdominal wall. The muscles and fascias. The great vessels (aorta, vena cava). Position of the kidneys, course of the ureters. The retroperitoneal space.
- Anatomical structures of the anterior abdominal wall. The muscles and fascias. The rectus sheath. Surface anatomy and regions. Projection of viscera and organs - anatomical landmarks. The inguinal canal. Testicular descent. Inguinal hernias. Clinical diagnosis and principles of surgical corrections.

PELVIS & PERINEUM ((Clinical and Surgical Anatomy)

- The bony pelvis, pelvic girdle (differences between male and female). The pelvic walls and fascia. The sacral plexus. The contents of the pelvis (male-female). The pelvic diaphragm and perineal body.
- Blood vessels of the pelvis (common/internal/external iliac artery-vein). Course of the pudendal neurovascular bundle, clinical implications in regional anaesthesia/trauma).
- Surface anatomy landmarks for pelvic organs –clinical examination. Clinical implications in trauma /inflammation /malignancy /extrauterine pregnancy).
- Functional anatomy (Incontinence - defaecation, urinary continence, organ prolapse, parturition).
- The perineum. The anal canal. The ischiorectal fossa and the pudendal bundle. The urogenital diaphragm. The female and male urethra. Superficial and deep perineal pouches. Surface anatomy of the perineum –anatomical landmarks. Clinical implications – surgical procedures (e.g. Episiotomy).
- Radiological anatomy of the pelvis. CT/MRI scans – transverse sections. Virtual anatomy.

CLINICAL SYSTEMATIC ANATOMY

RESPIRATORY SYSTEM

- The nose. The nasal cavity. The nasal sinuses (description, relations, blood & nerve supply, lymph drainage).
- The pharynx and larynx. Cartilages and fascia of the pharynx and larynx (description, relations, blood & nerve supply, lymph drainage). The vocal cords and phonation.
- The trachea, the bronchi and lungs (description, relations, blood & nerve supply, lymph drainage). Lobes and bronchopulmonary segments. The bronchial tree. The pleura and the pleural cavity (description, relations, blood & nerve supply, lymph drainage). Respiratory mechanics.

CARDIOVASCULAR AND LYMPHATIC SYSTEM

- The pericardium: fibrous and serous pericardium, the pericardial cavity and sinuses (description, relations, blood & nerve supply, lymph drainage).
- The heart: Surfaces and borders, the chambers of the heart, the fibrous skeleton. Atria and ventricles, the ventricular septum. The conducting system – cardiac autonomic innervation. Blood & nerve supply – the coronary arteries. Clinical implications.
- Structure of the vessels (arteries, veins and lymph vessels). The microcirculation.
- Arteries: aortic arch, descending aorta, thoracic-abdominal aorta –branches. Arteries of the upper/lower limb. Arteries of the head and neck.
- Veins: the vena cava, the azygos system, veins of the upper/lower limb, veins of the head and neck. The portal venous system. Portosystemic anastomoses-clinical cases.
- The great lymph vessels. Cisterna chylifera- thoracic duct. Distribution of lymph nodes throughout the body. Clinical correlations.

ENDOCRINE SYSTEM

- General principles of the endocrine system. The endocrine glands. The endocrine part of the pancreas/ovary/testis. The placenta. The thymus. Diffuse endocrine system – interrelations between the endocrine and the nervous system.

- Hypothalamus (Description and location, relations, nuclei, the hypothalamic-pituitary system).
- Pituitary gland (anterior – intermediate – posterior lobe: adenohypophysis - neurohypophysis. (Description and location, blood supply, relations, function).
- Pineal gland (epiphysis). (Description and location, blood supply, function).
- Thyroid gland. (Description and location, blood supply, function).
- Parathyroid glands. (Description and location, blood supply, function).
- Adrenal glands (cortex –medulla). (Description and location, blood supply, function).

DIGESTIVE SYSTEM

- The upper digestive system (buccal cavity, tongue, salivary glands, middle and lower part of the pharynx. (Description and location, blood & nerve supply, lymph drainage, function).
- The digestive system in the trunk: oesophagus, stomach, small intestine (duodenum, jejunum, ileum), large intestine (ascending /transverse /descending colon, sigmoid, rectum). The anal canal. (Description, blood & nerve supply, lymph drainage, function).
- The great glands of the digestive system (liver, pancreas).
- Clinical examples and clinical problems.

URINARY SYSTEM

- The kidneys (size, shape and location). The hilum. Holding of the kidneys in the retroperitoneal space – ptosis. Blood & nerve supply, lymph drainage. The pyelocalyceal system. The ureter (position, course, natural stenotic parts, the ureteropelvic junction, the vesico ureteric junction).
- The bladder. The bladder wall (detrusor), ureteral trigone, antireflux mechanisms. Blood & nerve supply, lymph drainage.

Mechanism of urine storage – voiding.

- The urethra (male-female). Urethroscopy - cystoscopy (virtual endoscopy).
- Radiological anatomy (KUB, IVU, ultrasound, CT scan – correlation with transverse sections of the retroperitoneal and pelvic space).
- Clinical examples and clinical problems (trauma, inflammation, neoplasm, lithiasis, voiding dysfunction).

GENITAL SYSTEM (male)

- Clinical anatomy of the testis, epididymis, vas deferens. The spermatic cord. Blood & nerve supply, lymph drainage.
- Testicular descend –the undescended testis. Congenital inguinal hernia –hydrocele. The scrotum.
- The prostate gland (morphology, zonal anatomy, clinical correlation with hyperplasia – carcinoma). The seminal vesicles-ejaculatory glands –Cowper glands.
- The penis. The erectile function. Ejaculation. Disorders in erection-ejaculation. Clinical examples and clinical problems.

GENITAL SYSTEM (female)

- Internal genital organs: the ovaries, the fallopian tubes, the uterus, the vagina (Description, blood & nerve supply, lymph drainage, function).
- External genital organs: The outer part of the vagina, the vestibule, the vulva (Description, blood & nerve supply, lymph drainage, function). Clinical examples and clinical problems.

LABORATORY EXERCISES

HEAD AND NECK

- Cranial nerves (nuclei, structure, function).

- The skull – fossas – foramina.
- The skull –the brain.
- The orbit.
- The infratemporal fossa.
- The pterygopalatine fossa.
- The parotid area. The facial nerve.
- The nasal cavity, the paranasal sinuses, the larynx.
- The pharynx, the buccal cavity, the tongue, the palate.
- The mandible, the mandibular joint, the submandibular area.
- The neck (fascias, trigones).
- The eye.
- The ear.

SYSTEMATIC AND TOPOGRAPHIC ANATOMY

- The thorax.
- The abdomen.
- The pelvis –perineum.
- The cardiovascular system.

- The respiratory system.
- The digestive system.
- The endocrine system.
- The urinary system. (Clinical and Surgical Anatomy)
- The male genital system. (Clinical and Surgical Anatomy)
- The female genital system. (Clinical and Surgical Anatomy)

62. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures, seminars and laboratory work face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The lectures content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.</p> <p>Use of instructional Anatomy Videos Use of digital body slices through Virtual Anatomy</p>	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	56
	Seminars and laboratory exercises.	42

	Review project in Anatomy topics	optional
	Hours of private study	102
	Total work load	200
STUDENT ASSESSEMNT	<p>Written exams at the end of the semester. Examination includes MCQs, short essays and Clinical Problem solving.</p> <p>Anatomy project (review): optional (+ 0 - 1.5)</p> <p>Minimum passing grade: 5/10.</p> <p>The examination documents are retained for 5 years and are readily available to students.</p>	

63. RECOMMENDED LITERATURE

Clinical Anatomy R. Snell

Clinical Anatomy Moore-Dalley-Agur

HISTOLOGY – 1st Year, 2nd Semester (Mandatory)

EMBRYOLOGY

I

Hours Teaching: 1.5 , Laboratory: 3 , Tutorials: - (per week)

ECTS units 4

Teachers H. Papadaki-Petrou, M. Asimakopoulou, V. Bravou, D. Papachristou, S. Syggelos

Description

HISTOLOGY-EMBRYOLOGY I

64. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_24 1	SEMESTER OF STUDIES	2ndSECOND
COURSE TITLE	HISTOLOGY-EMBRYOLOGY I		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures, tutorials/laboratory exercises.	2 (lect.) 2(lab.)	4
COURSE TYPE	BASIC KNOWLEDGE		
PREREQUISITE COURSES:	None		
TEACHING AND ASSESSMENT LANGUAGE:	Greek.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr		

65. LEARNING OUTCOMES

Leraning outcomes

By the end of this course the student will have acquired:

Histology I

1. *Understanding and thorough knowledge of the normal structure of human cells and tissues at the microscopic ultrastructural and molecular level*
2. *The ability to correlate normal structure and morphology with normal cell and tissue function (physiology)*
3. *The ability to integrate the information and knowledge obtained from the Histology I course with information from other basic scientific fields and courses (biochemistry, human biology and genetics, physiology)*
4. *The ability to apply this knowledge in order to understand mechanisms of human diseases.*
5. *The appropriate background information and knowledge that bridges basic science to clinical science (pathology)*
6. *The ability to analyze and synthesize acquired knowledge with clinical information in certain clinical problem settings (Problem-Based Learning)*

Embryology I

1. *Understanding and thorough knowledge of the morphologic (descriptive), molecular, genetic, cellular and tissue events underlying normal human embryology from the egg stage to birth (how tissue, organs and the body as a whole is assembled from a single cell -the zygote) focusing on the processes of gametogenesis, fertilization, cleavage, gastrulation, formation fa-tube within a tube body plan, structure and function of the placenta.*
2. *Understanding and thorough knowledge of the birth defects/congenital malformations*

3. A logical framework for understanding human anatomy
7. *The ability to integrate the information and knowledge obtained from the Embryology I course with information from other basic scientific fields and courses (biochemistry, human biology and genetics, physiology)*
4. *The ability to apply this knowledge in order to understand mechanisms of human disease.*
5. *The appropriate background information and knowledge that bridges basic science to clinical science (obstetrics, pediatrics etc)*
6. The ability to *analyze and synthesize* acquired knowledge with clinical information in certain clinical problem settings (Problem-Based Learning)

General Abilities

Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above):

Searching, analysis and synthesis of facts and information, as well as using the necessary technologies

Adaptation to new situations

Decision making

Autonomous (Independent) work

Group work

Excercise of criticism and self-criticism

Promotion of free, creative and inductive thinking

66. COURSE CONTENT

HISTOLOGY I - Contents.

1. Methods used in Histology.

- Tissue Preparation.
- Histochemistry, Immunohistochemistry.
- Light and Electron Microscopy.

2. The cell.

- Plasma Membrane.
- Membranous organelles.
- Non membranous organelles (cytoskeleton).
- The cell nucleus.
- Clinical Correlations.

3. Epithelial Tissue.

- Overview of epithelial structure and function.
- Classification of epithelium.
- Histogenesis of epithelium.
- Cell polarity. Apical - lateral and basal domains: Morphological and functional specializations - cell - cell and cell - ECM adhesion.
- Basement Membrane structure and function.

- Glands.
- Clinical correlations.
- 4. Connective Tissue.**
 - General structure and function.
 - Connective tissue proper. Loose and dense connective tissue.
 - Connective tissue fibers Extracellular matrix.
 - Connective tissue cells.
 - Clinical Correlations.
- 5. Cartilage.**
 - General structure and function. Cells and extracellular matrix.
 - Hyaline cartilage.
 - Elastic cartilage.
 - Fibrocartilage.
 - Chondrogenesis and cartilage growth.
 - Cartilage repair.
 - Clinical correlations.
- 6. Bone.**

- Overview of bones and bone tissue.
 - General structure and function.
 - Cells of bone tissue.
 - Bone formation.
 - Mineralization.
 - Physiologic role in metabolism.
 - Bone remodeling.
 - Clinical correlations.
- 7. Adipose tissue.**
- Overview.
 - Adipocytes differentiation, structure and function.
 - White adipose tissue function – regulation.
 - Brown adipose tissue - Structure, function, regulation.
 - Clinical correlations.
- 8. Muscle Tissue.**
- Overview and classification of muscle.
 - Skeletal muscle - structure, types of fibers.

- Skeletal muscle. Myofibrils and myofilaments. Sarcomeres and costameres.
 - Skeletal muscle. The contraction cycle.
 - Skeletal muscle. Motor and sensory innervation.
 - Skeletal muscle. Development, repair, healing and renewal.
 - Cardiac muscle. Structure, functional aspects, injury and repair.
 - Smooth muscle. Structure, functional aspects, Differentiation, renewal and repair.
 - Clinical correlations.
9. Nerve Tissue.
- Overview of the nervous system.
 - Composition of the nerve tissue.
 - The neuron. Morphology and structure. Types, Synapses, Neurotransmitters, Axonal transport.
 - Supporting cells of the nervous system.
 - Origin of nerve tissue cells.
 - Overview of the Peripheral nervous system.
 - Peripheral nerves.
 - Spinal Cord.
 - Sensory receptors.

- Autonomic nervous system.
- Clinical correlations.

10. Cardiovascular system.

- Overview.
- General features of vessels.
- Arteries.
- Capillaries.
- Veins.
- Lymphatics.
- Arteriovenous shunts.
- Clinical correlations.

11. Blood.

- Plasma.
- Blood cells.
- Haemopoiesis.
- Bone Marrow.
- Clinical correlations.

12. Immune system and lymphatic tissue / organs.

- Overview - General structure and functions.
- Immune responses.
- Cells of the lymphatic system. Lymphocytes (Types, surface markers, development and differentiation, regulation - function), Sup Antigen - Presenting Cells.
- Lymphatic vessels.
- Diffuse lymphatic tissue and nodules.
- Lymph nodes.
- Thymus.
- Spleen.
- Clinical Correlations

Embryology I

1. Overview of Human Embryology.
2. Molecular basis of Embryonic Development.
3. Gametogenesis. Conversion of Germ Cells Into Male and Female Gametes.
 - Primordial germ cells.
 - Mitotic divisions increase the number of primordial stem cells (mitosis).
 - Reduction of the number of chromosomes (Meiosis).
 - The biological significance of meiosis.

- Meiosis in females and males.
 - Structural and functional maturation of gametes.
 - Spermatogenesis.
 - Spermiogenesis.
 - Activation.
 - Oogenesis.
 - Clinical correlations - Clinical problems to solve.
4. First Week of Development, Ovulation to implantation.
- Ovarian Cycle.
 - Ovulation.
 - Oocyte Transport.
 - Fertilization.
 - Cleavage.
 - Blastocyst Formation.
 - Embryo transport.
 - Implantation.
 - Uterus at Time of Implantation.

- Clinical correlations - Clinical problems to solve.
5. Second week of development – bilaminar Germ Disk.
- Trophoblast has differentiated in two layers: cytotrophoblast and syncytiotrophoblast.
 - Embryoblast has differentiated into two layers: hypoblast and epiblast layer.
 - Establishment of the uteroplacenta circulation and primary villi.
 - Formation of extraembryonic mesoderm, connecting stalk, yolk sac, amniotic and chorionic cavity.
 - Sites of blastocyst implantation.
 - Abnormal implantation sites.
 - Clinical correlations - Clinical problems to solve.
6. Third week of development: Trilaminar Germ Disk.
- Gastrulation - formation all three germ layers.
 - The formation and the role of the primitive streak and the primitive node.
 - The formation and the role of the notochord.
 - Establishment of the body axes.
 - The prechordal plate, the oropharyngeal and the cloacal membrane.
 - The allantois.
 - The formation of neural plate and the neural tube.
 - The formation of neural crest.
 - The first appearance of somites.
 - The development of intraembryonic coelom.
 - The appearance of vascular system (vasculogenesis).
 - Further development of trophoblast and the newly formed structures are known as secondary and tertiary villi.

- Clinical correlations - Clinical problems to solve.

7. Third to Eighth weeks of human development (the embryonic period or period of organogenesis).

- Phases of embryonic development (growth, morphogenesis, differentiation).
- Folding of the Embryo in the median plane and in the Horizontal plane.
- Derivates of the Ectodermal Germ Layer, Derivates of the Mesodermal Germ Layer, Derivates of the Endodermal Germ layer.
- Control of embryonic development.
- Highlights of Fourth to Eight Week.
- Estimation of embryonic Age.
- Clinical correlations - Clinical problems to solve.

8. Third month to birth: The fetus.

- Maturation of tissue and organs and rapid growth of the body.
- During the third month the face becomes more human looking. Primary ossification centres are present in the long bones and skull by the 12th week. Also by the 12th week external genitalia develop to such a degree that the sex of the fetus can be determined by ultrasound.
- During the fourth and fifth month the fetus lengthens rapidly and is covered with fine hair called lanugo.
- During fifth month movements of the fetus can be felt by the mother.
- Time of Birth.
- Premature and Post mature Fetuses.

- Clinical correlations - Clinical problems to solve.

9. Body Cavities.

Formation of Intraembryonic Cavity.

Serous Membranes.

Diaphragm and Thoracic Cavity.

Formation of the Diaphragm.

Clinical Correlations - Clinical problems to solve.

10. Fetal Membranes and placenta.

- The formation of placenta - changes in the Trophoblast.
- The formation of placenta - changes in the functional layer of the endometrium - Decidua (decidua basalis, decidua parietalis, decidua capsularis).
- Structure of the placenta (fetal portion - maternal portion - chorionic plate - decidua - decidua septa).
- Circulation of the placenta - the placental membrane.
- Function of the placenta (1. Exchange of metabolic and gaseous products between maternal and fetal bloodstreams 2. Production of hormones).
- Amnion and umbilical cord.
- Amniotic fluid.
- Fetal membranes in twins.
- Clinical Correlations - Clinical problems to solve.

11. Birth defects - congenital malformations.

- Type of abnormalities.
- Environmental factors.
- Genetic factors.

12. Prenatal diagnosis.

Ultrasound.

Maternal serum screening.

Amniocentesis.

Chorionic villi sampling

13. . Skeletal System.

- Develops from paraxial, lateral plate mesoderm and from neural crest.
- Paraxial mesoderm – somites.
- Somites - sclerotome – dermatomyotome.
- Bone formation through Intramembranous ossification and endochondral ossification.
- Cartilage formation.
- Development of joints (Fibrous Joints, Cartilaginous Joints, Synovial Joints), Development of Vertebral Column, Development of the Sternum, Development of Cranium.
- Congenital Skeletal System Defects.
- Clinical Correlations - Clinical problems to solve.

Muscular System.

- Development of Skeletal Muscle, Development of Smooth Muscle Development of Cardiac Muscle.
- Molecular regulation of Muscle development.
- Clinical Correlations - Clinical problems to solve.

Development of Limbs.

- Early Stages of Limb development.
- Final stages of Limb Development.
- Cutaneous Innervation of Limbs.
- Blood Supply of Limbs.
- Congenital Limb Development Defects.

Clinical Correlations - Clinical problems to solve.

67. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures, tutorials and laboratory work face to face.
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, virtual microscopy) in teaching. Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teacher-student communication The lectures content of the course for each chapter are uploaded on the internet (e-class) , in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the

	beginning of the course.	
TEACHING ORGANIZATION		
	Lectures	28
	Tutorials/Laboratory exercises.	28
	Hours of private study	44
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	100hours (total student work-load)
STUDENT ASSESSEMNT	<p>Histology I: Written examination in Greek at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving, identification of structures in microscopic tissue photos) Minimum passing grade: 5 .</p> <p>Embryology I Written examination in Greek at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving, identification of structures in photos) Minimum passing grade: 5 .</p> <p><u>Final Course Grade (FCG)</u> $FCG = (G_{Histo} + G_{Embryo}) / 2$ The examination documents are retained for 5 years and are readily available to students.</p>	

68. RECOMMENDED LITERATURE

<ol style="list-style-type: none"> 1. Histology: Text and Atlas. Ross Michael. First edition. 2011. K & N Litsas. 2. Histology (3d edition). L.Gartner, J. Hiatt. Publisher: Books Parisianou. 2011.
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3. Developing Human: Clinically oriented embryology. Moore Keith L., Persaud T.V.N. Broken Hill Publishers Ltd . First edition, 2009
4. Human Embryology and Developmental Anatomy Carlson. Publisher: Books Parisianou. 4th edition. 2013

HISTOLOGY – 2nd Year, 3rd Semester (Mandatory)

EMBRYOLOGY

II

Hours Teaching: 3, Laboratory: 3, Tutorials: - (per week)

ECTS units 5

Teachers H. Papadaki-Petrou, M. Asimakopoulou, V. Bravou, D. Papachristou

Description

HISTOLOGY-EMBRYOLOGY II

69. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTEMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_32 1	SEMESTER OF STUDIES	THIRD
COURSE TITLE	HISTOLOGY-EMBRYOLOGY II		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, tutorials/laboratory exercises.	2 (lect.) 3 (lab.)	5	

COURSE TYPE	BASIC KNOWLEDGE	
PREREQUISITE COURSES:	None	
TEACHING AND ASSESSMENT LANGUAGE:	Greek.	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No	
COURSE WEBPAGE (URL)	https://eclass.upatras.gr MED943	

70. LEARNING OUTCOMES

Leraning outcomes
<p>The objective of Histology II course is to lead the student to understand the microanatomy of organs and organ systems as a whole and to correlate structure with function</p> <p>The objective of Human Embryology II course is to lead the student to understand how the organs formed and arranged in a particular way. Medical embryology has traditionally covered not only normal human development but defective development, as well. It is of practical value in helping to understand the causes of variation in Human Structure. It illuminates Human Gross and Microscopic Anatomy and contributes to the understanding of Congenital Defects-Malformations.</p>

By the end of this course the student will have acquired:

Histology II

8. *Understanding and thorough knowledge of the normal structure of human organs tissue components at the microscopic ultrastructural and molecular level*
9. *The ability to correlate normal structure of human organs and organ systems as a whole with normal function (histophysiology)*
10. *The ability to apply this knowledge in order to understand pathogenetic mechanisms and altered tissue morphology of human diseases (Histopathology)*
11. *The ability to integrate the information and knowledge obtained from the Histology II course with information from other basic scientific fields and courses (biochemistry, human biology and genetics ecc ,).*
12. *The ability to analyze and synthesize acquired knowledge with clinical information in certain clinical problem settings (Problem-Based Learning)*

Embryology II

7. *Understanding and thorough knowledge of the morphogenesis process based on underlying molecular, genetic, cellular and tissue events*
8. *Understanding the structural sequence of development of the body and its various organ systems*
9. *Embryology II is a powerful adjunct to an in-depth understanding of gross anatomical pattern. When the anatomical understanding is combined with the insight gained from molecular and cellular studies, the student can gain a profound knowledge of not only what happens, but why*
10. *A medical embryology course should provide to the student the scientific basis for understanding mechanisms*

underlying both normal and abnormal development. From the medical perspective, one of the major justifications for studying embryology is to provide a basis for understanding the genesis of birth defects.

- 11. The ability to apply this knowledge in order to understand mechanisms of human disease.*
- 12. The appropriate background information and knowledge that bridges basic science to clinical science (obstetrics, pediatrics etc)*
- 13. The ability to analyze and synthesize acquired knowledge with clinical information in certain clinical problem settings (Problem-Based Learning)*

General Abilities

Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above):

Searching, analysis and synthesis of facts and information, as well as using the necessary technologies

Adaptation to new situations

Decision making

Autonomous (Independent) work

Group work

Excercise of criticism and self-criticism

Promotion of free, creative and inductive thinking

71. COURSE CONTENT

HISTOLOGY II-Contents

1. Digestive system - oral cavity.

- Overview of the digestive system.
- Oral cavity and associated structures.
- Tongue.
- Salivary glands.

2. Digestive system - gastrointestinal tract.

- Overview of the gastrointestinal tract.
- Esophagus.
- Stomach. Gastric mucosa. Gastric glands. Epithelial cell renewal.
- Small intestine. Structure and function. Epithelial cell renewal.
- Large intestine. Structure and function. Epithelial cell renewal.
- Rectum and Anal Canal.
- Clinical correlations.

3. Digestive system - Liver, Gallbladder, Pancreas.

- Overview.
- Liver physiology.

- Blood supply to the liver.
- Structural organization of the liver. Liver lobules.
- Hepatocytes, biliary tree, perisinusoidal space.
- Gallbladder.
- Pancreas. Exocrine pancreas. Duct system.
- Pancreas. Endocrine pancreas. Pancreatic hormones - function and regulation.
- Clinical correlations.

4. Respiratory System.

- Overview.
- Nasal cavities. Respiratory and olfactory epithelium.
- Paranasal sinuses.
- Pharynx.
- Larynx.
- Trachea. Respiratory epithelium, basement membrane, elastic membrane, cartilages and trachealis muscle.
- Bronchi and Bronchioles. Structure and function.
- Alveoli. Alveolar epithelium. Surfactant. Alveolar septum and air - blood barrier.
- Blood supply, lymphatics and nerves.

- Clinical correlations.
5. Urinary system.
- Overview of the urinary system.
 - General structure of the kidney. Cortex and medulla. Kidney lobes and lobules. The nephron.
 - Filtration apparatus of the kidney. Renal corpuscle. Glomerular capillaries. Bowman's capsule - podocytes. Glomerular membrane.
 - Mesangium.
 - Juxtaglomerular apparatus.
 - Kidney tubules. Structure and function.
 - Histophysiology of the kidney.
 - Blood supply, lymphatics and nerves.
 - Ureter, urinary bladder and urethra. Transitional epithelium.
 - Clinical correlations.
6. Endocrine organs.
- Overview of the endocrine system.
 - Hormones and their receptors. Regulation of hormone secretion.
 - Pituitary gland (hypophysis). Structure and function. Blood and nerve supply. Anterior lobe (adenohypophysis) and po

- Clinical correlations.

8. Female reproductive system.

- Overview.
- Ovary. Structure. Follicle development and ovulation, Corpus luteum. Blood Supply and lymphatics.
- Uterine tubes.
- Uterus. General structure. Endometrium and cyclic changes during the menstrual cycle. Implantation. Cervix.
- Vagina.
- External genitalia.
- Mammary glands.
- Placenta.
- Clinical correlations.

9. Eye.

- General structure of the eye. Layers, chambers and development of the eye.
- Microscopic structure of the eye. Corneoscleral coat.
- Microscopic structure of the eye. Vascular coat (Uvea).
- Microscopic structure of the eye. Retina - layers, specialized regions, vessels.
- Microscopic structure of the eye. Crystalline lens.

- Microscopic structure of the eye. Vitreous body.
- Microscopic structure of the eye. Accessory structures.
- Clinical correlations.

10. Ear.

- Overview.
- External ear.
- Middle Ear.
- Internal Ear. Bony Labyrinth, Membranous labyrinth. Sensory cells and receptors. Sound perception, blood supply and innervation.
- Clinical correlations.

SYSTEM BASE EMBRYOLOGY –EMBRYOLOGY II

1 Cardiovascular System.

Formation and establishment of the Cardiogenic Field.

Formation and position of the Heart Tube.

Formation of the cardiac loop.

Molecular regulation of cardiac development.

Development of the Sinus Venosus.

Formation of the cardiac septa (Septum formation of the Common Atrium, Septum formation of the Atrioventricular Canal, Septum Formation in the Truncus Arteriosus and Conus Cordis, Septum Formation of the Ventricles).

Formation of Atrioventricular and Semilunar Valves.

Formation of the Conducting System of the Heart.

Vascular Development

Molecular regulation of cardiac and vessels development

Congenital Cardiovascular System Defects.

4. Respiratory System.

Tubulogenesis and branching Morphogenesis.

Formation of the Respiratory Primordium (Laryngotracheal Groove, Laryngotracheal Diverticulum, Tracheoesophageal Folds Tracheoesophageal septum, formation of the Larynx, Trachea, Bronchi and Lungs).

Maturation of the Lungs (Pseudoglandular Period, Canalicular Period, Terminal Sac Period, Alveolar Period)

. Molecular regulation of respiratory system development

Congenital Respiratory System Defects.

Clinical Correlation - Clinical Problems to Solve.

5. Endocrine System Development.

Pharyngeal Arches and Pharyngeal Pouches.

Epithelial Endodermal Lining of the Pouches and their Derivates (Parathyroid Glands, Thymus Gland, Thyroid Gland).

The Formation of Thyroid Gland, Migration of Thyroid bud and Thyroglossal Duct.

Ultimobranchial Bodies and Parafollicular Cells.

The Formation of Thymus Gland.

The Formation of Parathyroid Glands.

Congenital Endocrine System Defects.

Clinical Correlations - Clinical problems to solve.

Suprarenal Glands Development (Mesodermal Portion - Cortex and Ectodermal Portion Medulla).

Fetal Cortex and Definitive Cortex.

Clinical Correlations - Clinical problems to solve.

Development of Hypophysis or Pituitary Gland (from two different parts) 1. Diencephalon extension the Infundibulum. Ectoderm

Outpocketing of Primitive Oral Cavity: the Rathke Pouch.

Clinical Correlations - Clinical problems to solve.

The most caudal part of the Roof Plate of the Diencephalon and the development of Pineal Gland.

Molecular regulation of endocrine system development

Congenital Endocrine System Defects.

Clinical Correlations - Clinical problems to solve.

7. Digestive System Development.

Divisions of the Gut Tube.

Foregut: Esophagus, Stomach, Duodenum, Liver and Biliary Apparatus and Pancreas Development.

Clinical Correlations - Clinical problems to solve.

Midgut: Derivates (Small Intestine, Cecum, Appendix, Ascending Colon and the Right one half to two Thirds of the Transverse Colon

Primary Intestinal Loop, Physiological Herniation, Rotation of Midgut, Retraction of Herniated Loops, Mesenteries of the Intestinal

Clinical Correlations - Clinical problems to solve.

Hindgut Derivates: the Left One Third to one half of the Transverse Colon, the Descending Colon, Sigmoid Colon,

Rectum and Superior Part of the Anal Canal.

Molecular regulation of Digestive System Development
Congenital Digestive System Defects.

Clinical Correlations - Clinical problems to solve.

8. Urogenital System Development.

Kidney Systems Development: Pronephros, Mesonephros and Metanephros.

Interaction of Ureteric bud with Mesenchyma.

Development of Renal Pelvis and the Major and Minor Calyces.

The Weigert – Meyer rule - Mechanisms of Vesicoureteral reflux.

Bladder and Urethra Development.

Congenital Urinary System anomalies.

Gonadal Development: Comparative Embryology: Male - Female.

Gonadal Maturation.

Interaction of Gonads with the Internal Genital Organs.

External Genitalia Development - Influence of Hormonal Factors.

Molecular regulation of Digestive System Development

Congenital Urogenital System Defects.

Clinical Correlations - Clinical problems to solve.

9. Head and Neck Development:

. Pharyngeal Arches, Pharyngeal Clefts, Pharyngeal Pouches and their Derivates.

. Facial Development.

. Molecular regulation of Head and Neck Development

. Congenital Head and Neck Defects.

. Clinical Correlations - Clinical problems to solve.

10 Ear Development.

. Internal Ear Development.

. Middle Ear Development.

- . External Ear Development.
- . Molecular regulation of Ear Development
- . Congenital Ear Defects.
- . Clinical Correlations - Clinical problems to solve.
- . **11. Eye Development:**
- . Optic Cup and Lens Vesicle.
- . Retina, Iris and Ciliary Body Development.
- . Lens Development.
- . Choroid, Sclera and Cornea Development.
- . Vitreous Body Development
- . . Molecular regulation Eye Development
- . Congenital Eye Defects.
- . Clinical Correlations - Clinical problems to solve.

72. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures, tutorials and laboratory work face to face.
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, virtual microscopy) in teaching.

	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teacher-student communication</p> <p>The lectures content of the course for each chapter are uploaded on the internet (e-class) , in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.</p> <p>.</p>	
<p>TEACHING ORGANIZATION</p>		
	<p>Lectures</p>	<p>28</p>
	<p>Tutorials/Laboratory exercises.</p>	<p>42</p>
	<p>Hours of private study</p>	<p>55</p>
	<p>Total number of hours for the Course (25 hours of work-load per ECTS credit)</p>	<p>125 hours (total student work-load)</p>
<p>STUDENT ASSESSEMNT</p>	<p>Histology I: Written examination in Greek at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving, identification of structures in microscopic tissue photos)</p> <p>Minimum passing grade: 5 .</p> <p>Embryology I Written examination in Greek at the end of the semester (multiple choice questions, true-false, short answers, clinical problem solving, identification of structures in photos from diagrams and microscopic slides)</p> <p>Minimum passing grade: 5 .</p> <p><u>Final Course Grade (FCG)</u></p> $FCG = (G_{\text{Histo}} + G_{\text{Embryo}}) 50/ 50$ <p>The examination documents are retained for 5 years and are readily available to students.</p>	

73. RECOMMENDED LITERATURE

1. Histology: Text and Atlas. Ross Michael. First edition. 2011. K & N Litsas.
2. Histology (3d edition). L.Gartner, J. Hiatt. Publisher: Books Parisianou. 2011.
3. Developing Human: Clinically oriented embryology. Moore Keith L., Persaud T.V.N. Broken Hill Publishers Ltd . First edition, 2009
4. Human Embryology and Developmental Anatomy Carlson. Publisher: Books Parisianou. 4 th edition. 2013 •

EUROSCIENC 2nd Year, 4th Semester (Mandatory)
ES **The Neuroanatomy is half of the course of Neuroscience.**

Hours Teaching: 2, Laboratory/ Tutorials: 3 (student/week)

ECTS units 6

Teachers M. Assimakopoulou

Description

ΠΕΡΙΓΡΑΦΜΑ ΜΑΘΗΜΑΤΟΣ

74. ΓΕΝΙΚΑ

	HEALTH SCIENCES		
	MEDICINE		
	BACHEROL OF SCIENCE		
	MED411		4 th (spring semester)

	NEUROSCIENCE	
	Διαλέξεις	4 (14 weeks)
	Εργαστηριακές Ασκήσεις	3 (14 weeks)
	Total:	6
		7 (14 weeks)
	Field of Science	
	NONE	
	Greek	
	NO	
	https://eclass.upatras.gr/courses/MED845/ https://eclass.upatras.gr/courses/MED906/ https://eclass.upatras.gr/courses/MED840/ https://eclass.upatras.gr/courses/MED843/ https://eclass.upatras.gr/courses/MED870/	

75. ΜΑΘΗΣΙΑΚΑ ΑΠΟΤΕΛΕΣΜΑΤΑ

Μαθησιακά Αποτελέσματα

The lesson is the basic educational activity for students to know the anatomical and functional organization

of the nervous system. Students are introduced to the importance of the nervous system. The principles of physiological organization of the nervous system are described and discussed to create the intellectual background for understanding and understanding of major dysfunctions including simple disorders of mobility and sensation, and more complex disorders such as aphasia, amnesia and agnosia.

The course is organized in two parallel but intersecting axes consisting of the study of the anatomical organization and physiology of the nervous system, i.e. in neuroanatomy and neurophysiology, respectively. In general, the subject matter of the course is organized in such a way that students are gradually introduced into the concepts of structural structure and physiology of the neuronal cell (neuron), the functional specialization of neurons (e.g. sensory, motor), the functional organization of simple neural networks (e.g. spinal cord networks) up to the analysis of complex functions such as the various systems of sensorial information analysis, the organization of motor activity, the regulation of the internal environment, the various levels of alertness and the learning/memory. These functions are based on and require the activity of extensive neural networks. These lessons are given in conjunction with the detailed examination of the topography of the different parts and structures of the central nervous system. The teaching includes the basic principles of fetal and post-fetal development of the nervous system as well as its vascularization system and the production and functioning of the cerebrospinal fluid.

With the laboratory and tutorial exercises the students are trained in the anatomical recognition of the structures of the nervous system and theoretically in the analysis of pathological situations with presentation of selected clinical problems and syndromes. These activities are aiming at developing the capacity of the students to identify the kind and the anatomical localization of the underlying pathology based on symptoms and specific clinical measurements.

Upon successful completion of this course the students will acquire new knowledge and specific skills on the following subjects:

- The basic elements of functional organization of the neurons (nerve cells).
- The basic mechanisms and roles of membrane electrical activity of neurons.

- The mechanisms, the role and the regulation of chemical and electrical synaptic transmission.
- Recognize the general anatomical organization of the nervous system as well as the topography of various parts of the central nervous system.
- The basic principles governing the development of the nervous system.
- The mode of vascularization of the central nervous system and cerebrospinal fluid function.
- The principles of anatomical organization of sensory and motor systems.
- The principles of different levels of functional organization of sensory and motor systems.
- The methods used to identify the species and the anatomical localization of the pathology of the nervous system.

76. ΠΕΡΙΕΧΟΜΕΝΟ ΜΑΘΗΜΑΤΟΣ

NEUROANATOMY

INTRODUCTION IN THE STRUCTURE AND FUNCTIONING OF THE NERVOUS SYSTEM

- **Neuron Structure, Glia, Neural Tissue Organization**
- **Structure and Functional Topography of the Central Nervous System: Spinal Cord, Medulla, Pons, Cerebellum, Midbrain, Diencephalon, Cerebral hemispheres. Meninges.**
- **Organization of the Nervous System in Longitudinal Systems and Horizontal Levels.**
- **Diagnosis of Neurological Diseases: Anatomical Localization.**

DEVELOPMENT OF THE NERVOUS SYSTEM

- **Fetal Development** (Neural tube, Neural crests, Mechanisms of formation of synapses, The role of the microenvironment in the development of the nervous system).
- **Metafetal development**

LONGITUDINAL SYSTEMS

- **Sensory Systems**

Sensory modalities, Sensory receptors, Sensory fibers and paths

Sensory Pathways and Sensory Processing: Somatic sensory system, Pain, Temperature, Non-conscious Sensation (Spino-cerebellar tracts), Vision, The auditory system, The vestibular system, The chemical senses (olfaction and taste), Special Visceral Sensitivity.

- **Motor Systems**

Lower Motor Neurons and Muscles, Reflexes, Muscle Tone, Lower motoneuron Damage and Regeneration.

Pyramid (Limbo), Indirect Floating Cavity Root and control of voluntary movements

Symptoms of Upper Kinetic Neuron Damage

Basic Ganglia (Structure and Connections, Kinetic System Control Circuits, Basic Ganglion Disease)

Cerebellum (Subunits, Feeding and Abduction Fibers, Control Systems of the Kinetic System, Cerebellar Functions and Symptoms in Diseases)

Ophthalmologic System (Eye Movements and Muscles, Control of Eye Movements, Cortical Control of Eye Movements)

- **Regulation of Internal Environment**

Functional Anatomy

Sympathetic and Parasympathetic Systems

Clinical Implications

- **Consciousness**

Functional Anatomy

Clinical Implications

- **Ventricular System of the Brain & Cerebrospinal Fluid System**

- **Vascular System of the Brain** (Cerebral Blood Flow and Blood-Brain Barrier, Arterial and Venous)

System, Clinical Implications)

HORIZONTAL LEVELS

- **The Peripheral Level**

Repetition of educational objectives included in matter of Anatomy I.

- **The Spinal Level**

Anatomy and Functions of Spinal Cord

Spinal Reflexes

Clinical Implications

- **The Posterior Fossa (Subtentorial) Level**

Anatomy and Functions of Brainstem

Brain Stem & Cranial Nerve Nuclei

Anatomy and Function of Cerebellum

Auditory and Vestibular Systems

Clinical Implications

- **Supratentorial Level**

Thalamus, Hypothalamus

Visual System

Telencephalon (Organization, Connections and Functions of Cerebral Cortex)

Structures and Functions of the Limbic System, Clinical Implications)

NEUROPHYSIOLOGY

A General View of the Nervous System. A brief Historical Overview of the Nervous System Study.

Physiological Function of Nerve Cells

Membrane potential, excitability, mechanisms of action potential conduction. Clinical estimation of action potential conduction velocity in a peripheral nerve. Multiple sclerosis.

Synaptic Transmission

Structure and physiology of electrical and chemical synaptic transmission: processes and mechanisms, functional properties.

Neuromuscular synaptic transmission: An analysis of processes and properties. Toxins and pharmaceutical substances of neuromuscular junction. Myasthenia gravis.

Properties of synaptic transmission in the central nervous system, neurotransmitters and neurotransmitter receptors. Fast and slow synaptic transmission. Functional characteristics of the various neurotransmitter systems in the central nervous system. Plasticity of synaptic transmission.

Principles of Sensory System Organization

Sensory modalities and sensory systems. Sensory stimuli and sensory receptors. Sensation and Perception.

Structure and physiological properties of sensory receptors.

Receptive field. Mechanisms of sensory transduction. Receptor adaptation: mechanisms and functions.

The somatic Sensory System

Structure and function of sensory receptors in the somatic sensory system.

Pain physiology: nociceptors and the transduction of painful stimuli, referred pain, peripheral and central mechanisms of hyperalgesia, central mechanism of pain regulation.

Specific Sensory Systems

The chemical senses (taste and smell), the eye and the visual perception, the hearing, encoding sound intensity and frequency, sound localization.

Spinal control of movement

Proprioception from muscle spindles and Golgi tendon organs.

The myotatic reflex.

Gamma motor neurons: connections and functional roles.

Other spinal cord reflexes.

The roles of interneurons.

Brain control of movement

Neuronal networks of supraspinal motor control. Basal ganglia and cerebellum.

Physiology of ascending activating system

Levels of awareness and electroencephalogram. Sleep: stages, neural mechanism, putative functions and disturbances.

Emotion & Motivation

Structures, Mechanisms and Functions.

Learning and Memory

Categories and cellular mechanisms: long-term synaptic plasticity.

Lateralization of Brain Function

77.

	Short Lectures, tutorials, ppt presentations, face to face
	Use of digital presentations that are uploaded on the e-class electronic platform. Use of fresh preparations, artificial models and tissue sections of human brain.

	<p>Lectures in the amphitheater aimed at understanding the neuronal circuits and mechanisms governing the functioning of the human brain under normal conditions. Particular emphasis is placed on clinical associations with reference to corresponding brain dysfunctions.</p>	<p>56 hours (4 hours X 14 weeks = 56 hours)</p>
	<p>Laboratory exercises in small groups of students, which include study of a) Anatomy of spinal cord, brain stem (medulla oblongata, pons, midbrain), diencephalon (thalamus, hypothalamus, epithalamus, suthalamic area) and brain hemispheres (basal ganglia, white matter, cerebral cortex), and b) Topographic Anatomy in the spinal, subtentorial and supratentorial level of ascending and descending bundles.</p> <p>Tutorials presenting and discussing selected clinical problems related to the subject of the lectures and the corresponding laboratory exercises of the week and essentially practical applications of the physiological</p>	<p>42 hours (3 hours X 14 weeks= 42 hours)</p>

	<p>principles of the functional organization of the nervous system aiming at the development of a capacity for diagnosis of the type and diagnosis of the pathological condition include:</p> <ol style="list-style-type: none">1. Anatomical Localization of dysfunction in Central Nervous System. Simple clinical problems in order for students to become familiar with the diagnosis of neurological dysfunctions regarding a) Sensory systems, b) Motor systems (Direct and indirect activation pathways, Control circuits-basal ganglia, cerebellum), c) Vascularization of the brain and spinal cord, d) Vestibular system, Ocular motor system, Visual system, e) Consciousness system.2. Compound Action Potential (CAP) in a Peripheral Nerve - Physiology, Methodology & Pathology: CAP: mechanism of generation and differences from action potential generated from isolated nerve cells. Properties of CAP. Experimental provocation and recording of CAP in a	
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	<p>peripheral nerve. CAP conduction velocity. Role of myelin in the conduction velocity of CAP. Clinical estimation of excitability and measurement of peripheral nerve CAP conduction velocity. Main peripheral nerve pathologies. Diagnostic value of CAP features and measures.</p> <p>3. Neural Stem Cells Stem cell physiology during embryogenesis and adult life. Role of stem cells in tissue and organ homeostasis with emphasis on neural stem cells. Therapeutic perspectives of regenerative medicine with emphasis on the use of neural stem cells in neurodegenerative diseases.</p>	
	Hours of private study	52 hours
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	150 hours (total student work-load)
	Neuroanatomy: Optional ppt presentations and clinical problem solving	

	<p>by the students: +1 in the grade of the final examination</p> <p>The final evaluation takes place during the examination at the end of the lesson: Written examination with multiple choice questions, clinical problem solving and development of specific topics.</p> <p>Minimum passing grade: 5/10</p> <p><u>Final Course Grade (FCG)</u> $FCG = (G_{NEUROANATOMY} + G_{NEUROPHYSIOLOGY}) / 2$</p>
-	

PATHOBIOLOGY OF BONE TISSUE DISORDERS 3rd Year, 5th Semester (Optional)

Hours Teaching: -, Laboratory: 2, Tutorials: - (per week)

ECTS units 4

Teachers D. Papachristou

Description

COURSE OUTLINE

1. GENERAL

SCHOOL	HEALTH SCIENCES
SEPARTMENT	MEDICINE

LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_ 597	SEMESTER OF STUDIES	FIFTH
COURSE TITLE	PATHOBIOLOGY OF BONE DISEASES		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures,laboratory work	2 (lectures/tutorials)	4
COURSE TYPE	SCIENTIFIC FIELD		
PREREQUISITE COURSES:	ANATOMY I, HSITOLGY I		
TEACHING AND ASSESSMENT LANGUAGE:	Greek.		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	

2.

2. LEARNING OUTCOMES

Leraning outcomes

By the end of this course the student will have acquired:

1. Appreciation of the molecular, microscopical, radiological and clinical characteristics of bone, cartilage and related tissues
2. *Understanding and thorough knowledge of the molecular mechanisms that highlight the pathobiology of common metabolic and degenerative bone diseases, such as osteoporosis and osteoarthritis*
3. *Appreciation of the pathology, radiology and pathogenesis of bone tumors primary tumors (e.g. osteosarcoma, chondrosarcoma, Ewing's sarcoma) and metastatic bone disease.*
4. *First encounter with the novel therapeutic approaches towards neoplastic, metabolic and traumatic bone pathologies*
5. *The appropriate background information and knowledge that bridges basic science to clinical science (pathology*
6. The ability to *analyze and synthesize* acquired knowledge with clinical information in certain clinical problem settings (Problem-Based Learning)

General Abilities

Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above):

Searching, analysis and synthesis of facts and information, as well as using the necessary technologies

Analysis and ppt presentation of current original and review articles

Adaptation to new situations

Decision making

Autonomous (Independent) work

Group work

Excercise of criticism and self-criticism

Promotion of free, creative and inductive thinking

3. COURSE CONTENT

1. Basic histology and molecular biology/pathology of bone , cartilage and related tissues
2. Molecular mechanisms of endochondral and membranous ossification
3. Histochemical, molecular and biochemical methods for studying bone and cartilage diseases
4. Signaling cascades and transcription factors that regulate mechanotranduction in skeleton
5. Biology of fracture healing
6. Osteoporosis: from molecular diagnosis to novel treatments and personalized therapy
7. Hematopoietic stem cells and bone: friends or foes

8. Bone metastases: from cells and molecules paths to targeted therapy
9. Pathogenesis and pathobiology of sarcomas
10. Patobiology, molecular pathogeneneis and treatment of osteoarthritis
11. Bone and eating disorders (obesity and anorexia nervosa):current and promising therapeutic approaches

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Short Lectures, tutorials, ppt presentations, face to face.
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<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</p>	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, android and iOS applications) in teaching.</p> <p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teacher-student communication</p> <p>The lectures content of the course for each chapter are uploaded on the internet (e-class) , in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.</p> <p>Creation of study groups in facebook.</p>
<p>TEACHING ORGANIZATION</p>	<p>Lectures 28</p> <p>Interactive teaching/learning 28</p> <p>Student projects: 2 for 2-3 students groups</p> <p>Analysis of current bibliography 28</p> <p>3</p> <p>Hours for private study of the student 28</p> <p>Total number of hours for the Course (25 hours of work-load per ECTS credit) 100hours (total student work-load)</p>

STUDENT ASSESSEMNT	Language: Greek Student evaluation: ppt presentations, clinical and research problem solving, level of interest and critical involvement in the works of the class.
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5. RECOMMENDED LITERATURE

- Cell Biology and Histology, Leslie P. Gartner, James L. Hiatt, Judy May Strum
- Colour Atlasοφ Ηιστολογυ, Ross Michael H
- Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism, 8th Edition, [Clifford Rosen](#) (Editor-in-Chief), Wiley-Blackwell

Related Journals:

1. Bone

2. Journal of Bone and Mineral Research

3. Lab Investigation

4. Journal of Endocrinology

5. Osteoarthritis and Cartilage

CLINICAL 3rd Year, 5th Semester (Optional)

NEUROANAT

OMY-

MOLECULAR

ANATOMY

Hours Teaching: 2 , Laboratory: - , Tutorials: - (per week)

ECTS units 4

Teachers V. Bravou

Description

MOLECULAR ANATOMY

COURSE OUTLINE

78. GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_581	SEMESTER OF STUDIES	5 th
COURSE TITLE	MOLECULAR ANATOMY		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Tutorials	2	4
COURSE TYPE	SCIENTIFIC FIELD		
PREREQUISITE COURSES:	NONE		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/ MED936		

79. LEARNING OUTCOMES

Leraning outcomes

At the end of the course the students will have acquired:

1. in depth knowledge and understanding of the normal structure of human cells-tissues and organs at the macroscopic microscopic, ultrastructural and molecular levels (level 6)

2. expertise knowledge of the molecular structure of the human cells and tissues, knowledge and information that is on the frontier of basic and translational research and will constitute the basis of original and critical thinking (level 7)
3. the ability to search, analyze, combine and integrate information and knowledge regarding the structure and function of the human body from different sources, courses (physiology, biology, genetics) and levels of analysis (from the molecular level to the level of the whole human body function and behavior)
4. the ability to understand mechanisms of human disease
5. the ability to combine the knowledge with relevant knowledge of other Clinical topics, current diagnostics and therapeutics of human diseases.

General Abilities

Generally, by the end of this course the student will have developed the following general abilities (from the list above):

Searching, analysis and synthesis of facts and information, as well as using the necessary technologies

Decision making

Autonomous (Independent) work

Group work

Production of new ideas

Promotion of free, critical and novel thinking

80. COURSE CONTENT

Course detailed description

The course of Molecular Anatomy focuses on the study of the structure and function of the human body

(cells tissues and organs) at the macroscopic, microscopic and particularly the molecular level with emphasis on clinical correlations.

The course of Molecular Anatomy includes tutorials and scientific presentations by the students (small projects/small working groups)

Topics include

1. Molecular Developmental Anatomy. Study of the molecular profile of cells and tissues in the human embryo during histogenesis/organogenesis. Correlation with developmental and adult human diseases
2. Molecular Anatomy of the epithelial cells. Apicobasal polarity, microvilli, cilia, Cell-cell junctions and Basement membrane. Correlation with human diseases (Diseases of Desmosomes, cancer etc)
3. Molecular Anatomy of the endothelial cells. Study of the structure and function of the body barriers with clinical correlations. (e.x Blood-Brain Barrier and Multiple Sclerosis, Alzheimer disease, drug delivery to the brain and brain edema). Endothelium and atherosclerosis.
4. Molecular anatomy of the respiratory system: ciliated cell and clinical correlations (Immotile cilia syndrome, Kartagener syndrome etc), goblet cells and clinical correlations (COP)
5. Molecular anatomy of the urinary system: podocyte and proteinuria, mesangial cell and glomerulopathies, umbrella cells, polycystic kidney disease etc
6. Molecular anatomy of the muscle cells and clinical correlations. Striated muscle cell, cardiomyocyte, sarcomeric and costameric diseases, gap junctions and arrhythmias, myopathies and cardiomyopathies
7. Molecular anatomy of mesenchymal cells, epithelial-mesenchymal transition and cancer

8. Molecular anatomy of glial cells: Schwann cells, oligodendrocytes, myelin and demyelinating diseases, astrocytes and CNS tumors

Molecular anatomy of neurons and proteinopathies (e.x Parkinson and Alzheimer disease)

81. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Tutorials face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint presentations) in teaching. The content of the course for each chapter are uploaded on the internet (e-class platform), in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.	
TEACHING ORGANIZATION		
	Tutorials	28
	Interactive teaching	10
	Small review projects (oral presentations) in topics of interest	10
	Study and analysis of the literature	22
	Written essay (review)	30
	Total work load	100
STUDENT ASSESSEMNT	Overall assessment of the student participation in the course, participation in interactive teaching and small projects-oral presentations: 30% Written essay: 70%	
	Minimum passing grade: 5/10.	

82. RECOMMENDED LITERATURE

- Histology and cell biology, Kierszenbaum A
- Cell Biology and Histology, Leslie P. Gartner, James L. Hiatt, Judy May Strum
- Histology: Text and atlas, Ross Michael H
- Review scientific papers and notes uploaded on e-class

DEPARTMENT OF PHYSIOLOGY

Address Preclinical Research Building
University Campus (Rio) Patra
Tel.: 2610- 969195, Fax: 2610-969178

LABORATORY STAFF

Director Prof. Adamantia Mitsacou

Professors Adamantia Mitsacou, Konstantinos Papatheodoropoulos, Stavros Taraviras

Associate Professors Konstantinos Papatheodoropoulos, George Stathopoulos, Stavros Taraviras

Assistant Professors Georgia Voukelatou,

Lecturers -

**Supporting Teaching
and Technical Staff** -

* **Participating in Integration I**

The courses of Physiology aim to teach the medical students about the physiological functions of the human body and the effects that changes in the external environment have, in these functions.

PHYSIOLOGY I 1st Year, 2nd Semester (mandatory)

Hours
ECTS Units
Teachers
Coordinator

Teaching: 3, Laboratory: 3, Tutorial: - (per week)
 6
 G. Stathopoulos, K. Papatheodoropoulos, S. Taraviras
 G. Stathopoulos

Description

COURSE OUTLINE

1. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICAL SCHOOL		
COURSE LEVEL	BACHELOR OF SCIENCE		
COURSE CODE	MED251	SEMESTER	second2nd
COURSE TITLE	PHYSIOLOGY I		
INDEPENDENT TEACHING ACTIVITIES		HOURS OER WEEK	ECTS CREDITS
Lectures		5	6
Practical laboratories, tutorials (clinical problem solving)		3	
COURSE TYPE	Field of science (Physiology) Development of analytical and synthetic cognitive abilities		
PREREQUISITES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		

COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED863/

2. ΜΑΘΗΣΙΑΚΑ ΑΠΟΤΕΛΕΣΜΑΤΑ

Learning outcomes
<p>The course aims to confer knowledge, skills and abilities relating to the level 6 of the European Qualifications Framework Lifelong Learning. In particular, upon the successful completion of the course students must be able to:</p> <ul style="list-style-type: none"> • Understand the importance of homeostasis, excitability, cell signaling and physiological functioning of specific human systems (cardiovascular, muscular, respiratory, blood) • Be acquainted with the basic principles of electrocardiography and understand the measurement of respiratory function • Acquire solid knowledge and understanding of topics in the scientific field of Human Physiology, based on either Physiology textbooks or on data derived from the latest developments in the field of Physiology. • Be able to use the knowledge and understanding they have acquired in a way that demonstrates a professional approach based on the analytical and synthetic inductive use of acquired information, combined with other areas of knowledge exposed during their studies (eg Anatomy, Pharmacology) • Be able to process novel complex problems related to pathophysiological conditions • Develop skills for acquiring knowledge needed for postgraduate studies with a high degree of autonomy
General abilities

Search, analyze and synthesize data and information, using the necessary technologies.
Adapting to new situations.
Decision making.
Independent work.
Group work.
Work in international environment.
Work in interdisciplinary environment.
Criticism and self-criticism.
Promoting free and creative thinking.

3. COURSE CONTENT

LECTURES: Introduction in Physiology, Homeostasis, Membrane electrophysiology, Autonomic Nervous System, Musc physiology, Signal transduction, Cardiovascular system, Respiratory system, Blood physiology. LABORATORY PRACTIC Membrane excitability, Blood physiology, Electrocardiography, Measurements of lung volumes, CLINICAL PROBLEI SOLVING: patient diagnosed with heart failure

83. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Direct (face to face)	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<ol style="list-style-type: none"> 1. Use of E-class platform 2. Use of computer software in classroom teaching and in laboratory practice 	
TEACHING ORGANIZATION Σ	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	65

	Laboratory practice	9
	Clinical problem solving	3
	Computer simulation	3
	Homework	70
	Total course hours (25 hours of work-load per ECTS credit)	150 hours
STUDENT ASSESMENT	Language: Greek Final written examination with multiple choice questions, matching exercises, short answer questions, etc.	

84. RECOMMENDED LITERATURE

Berne and Levy Physiology, by B.M. Koeppen, B.S. Stanton, 6th edition, Elsevier Inc., 2010
 Medical Physiology, by Boron W. & Boulpaep E., Broken Hill Publishers Ltd, 2011
 Introduction to Human Physiology, 8th Edition, by L. Sherwood, Brooks/Cole, Cengage Learning

Relevant scientific journals: Physiological Reviews, webpages: <http://www.the-aps.org/>

PHYSIOLOGY II

Hours

2nd Year, 3rd Semester (mandatory)

Teaching: 5, Laboratory: 3, Tutorials: - (per week)

ECTS Units

8

**Teachers
coordinator**

G. Voukelatou, A. Mitsakou, S. Taraviras, K. Papatheodoropoulos

G. Voukelatou

Description

COURSE OUTLINE

2. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICAL SCHOOL		
COURSE LEVEL	BACHELOR OF SCIENCE		
COURSE CODE	MED341	SEMESTER	third
COURSE TITLE	PHYSIOLOGY II		
INDEPENDENT TEACHING ACTIVITIES		HOURS PER WEEK	ECTS CREDITS
Lectures		6	8
Practical laboratories, tutorials (clinical problem solving)		3	
COURSE TYPE	Field of science (Physiology) Development of analytical and synthetic cognitive abilities		
PREREQUISITES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED847/		

4. ΜΑΘΗΣΙΑΚΑ ΑΠΟΤΕΛΕΣΜΑΤΑ

Learning outcomes

The course aims to confer knowledge, skills and abilities relating to the level 6 of the European Qualifications Framework for Lifelong Learning. In particular, upon the successful completion of the course students must be able to:

- Understand the importance of physiological functioning of specific human systems (renal, gastrointestinal, endocrine, reproductive)
- Acquire solid knowledge and understanding of topics in the scientific field of Human Physiology, based on either Physiology textbooks or on data derived from the latest developments in the field of Physiology.
- Be able to use the knowledge and understanding they have acquired in a way that demonstrates a professional approach based on the analytical and synthetic inductive use of acquired information, combined with other areas of knowledge exposed during their studies (eg Anatomy, Pharmacology)
- Be able to process novel complex problems related to pathophysiological conditions
- Develop skills for acquiring knowledge needed for postgraduate studies with a high degree of autonomy

General abilities

Search, analyze and synthesize data and information, using the necessary technologies.

Adapting to new situations.

Decision making.

Independent work.

Group work.

Work in international environment.

Work in interdisciplinary environment.

Criticism and self-criticism.

Promoting free and creative thinking.

5. COURSE CONTENT

LECTURES: Physiology of Renal system, Gastrointestinal system, Endocrine system, Reproductive system

CLINICAL PROBLEM SOLVING: 1. Diarrhea caused by vibrio cholera infection, 2. Cushing syndrome, 3. Acid-base balance

85. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Direct (face to face)	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<p>3. Use of e-class platform</p> <p>4. Use of computer software in classroom teaching</p>	
TEACHING ORGANIZATION Σ	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	78
	Clinical problem solving	12
	Homework	110
	Total course hours (25 hours of work-load per ECTS credit)	200 hours
STUDENT ASSESSEMENT	<p>Language: Greek</p> <p>Final written examination with multiple choice questions, matching exercises, short answer questions, etc.</p>	

86. RECOMMENDED LITERATURE

Berne and Levy Physiology, by B.M. Koeppen, B.S. Stanton, 6th edition, Elsevier Inc., 2010

Medical Physiology, by Boron W. & Boulpaep E., Broken Hill Publishers Ltd, 2011

Introduction to Human Physiology, 8th Edition, by L. Sherwood, Brooks/Cole, Cengage Learning

Relevant scientific journals: Physiological Reviews, Endocrine Reviews, Trends in Endocrinology and Metabolism, webpages: <http://www.the-aps.org/>

**NEUROBIOLOGY OF
MNEMONIC
FUNCTIONS**

3rd Year, 5th Semester (mandatory)

Hours

ECTS Units

Teachers

Teaching: 2, Laboratories/Tutorials: - (per week)

4

C. Papatheodoropoulos

Description

87.

	HEALTH SCIENCES		
	MEDICINE		
	BACHEROL OF SCIENCE		
	MED_596		5 ^o (winter semester)
	NEUROBIOLOGY OF LEARNING AND MEMORY		
	Διαλέξεις	2 (13 weeks)	4
		Total: 2 (13 weeks)	4
	Field of Science		
	Greek		
	OXI		
	https://eclass.upatras.gr/courses/MED845/		

The course aims at: a) creating a general frame of knowledge of the memory functions at the different levels of organization, from behavior to the cellular level; b) consolidating the knowledge of important memorial functions using specific examples and clinical cases.

After the completion of the course the student is expected to know:

- The framework of modern ideas for mnemonic operation.
- The general, basic classification of memory.
- The basic molecular and cellular mechanisms of simple memory forms.
- The different features between declarative and non-declarative memory forms.
- The characteristics of experiential memory and the proposed neuronal mechanisms.
- The theories of memory consolidation and the formation of long-lasting memory.
- The basic principles and general mechanisms of synaptic plasticity.
- The general mechanisms of long-term synaptic potentiation.
- The functional role of NMDA receptor and calcium channels in synaptic plasticity and memory.
- The role of protein synthesis in memory and synaptic plasticity.
- The role of neuromodulation in synaptic plasticity and mnemonic consolidation.
- The general mechanisms of brain aging and the consequent changes in synaptic and memory functions in old individuals. The characteristics, the neurobiological background and the possible approaches to the treatment of Alzheimer's disease.

•

1. Definitions of learning and memory functions.
2. Categorization and definitions of different types of memory.
3. Distinctions between declarative and non-declarative learning and memory.
4. The basic molecular and cellular mechanisms of simple memory forms.
5. Definition and characteristics of episodic memory.
6. Brain mechanisms for the consolidation of episodic memory.
7. Basic principles and mechanisms of synaptic plasticity.
8. Characteristics of long-term synaptic potentiation and the role of the NMDA receptor.
9. The role of calcium, post-translational modifications and protein synthesis in synaptic plasticity.
10. Mechanics of synaptic plasticity modulation.
11. Characteristics and mechanisms of brain aging.
12. Characteristics, methods of diagnosis and ways of possible treatment of Alzheimer's disease.
13. Presentation of work by students.

89.

	In the amphitheater and in the field of experimental research face-to-face. Alternatively, distance learning through videoconferencing lecture at a special online platform of the University of Patras.	
	Use of electronic presentations and video presentations posted on the e-class electronic platform.	
	Lectures and discussions in a tutorial room.	26 (2 hours X 13 weeks = 26)
	Demonstration of an in vitro	4

	experimental study of synaptic transmission, synaptic plasticity and organization of spontaneous network neuronal activity in a specific experimental neurophysiology room.	
	Estimated hours for the preparation of oral presentations or written assignments of students.	40
	<i>Σύνολο Μαθήματος (25 ώρες φόρτου εργασίας ανά πιστωτική μονάδα)</i>	70
	<p>The assessment is based on student participation during lectures and discussions, but mainly based on the quality of the presentation or work presented or delivered during or usually at the end of the semester. Topics to be developed may come from a list of suggested topics or be free personal choices for students.</p> <p>The general writing guidelines have been posted on the e-class platform. Also, due to the increasing participation of students in the course in the last years, quantitatively assessed criteria for student assessment and graduation will be created and posted in e-class.</p>	

**PHYSIOLOGY AND
STEM CELLS BIOLOGY-
APPLICATIONS IN
REGENERATIVE
MEDICINE**

3rd Year, 5th Semester (mandatory)

Hours Teaching: 2, Laboratories:- , Tutorials:- (per week)

ECTS Units 4

Teachers S. Taraviras

DEPARTMENT OF GENERAL PHARMACOLOGY

Address Preclinical Research Building
University of Patras campus (Rion)
Tel.: 2610-997940, 2610-994720, Fax: 2610-994720

LABORATORY STAFF

Director Prof. Kyriakos E. Kypreos

**Associate
Professors** Nikolaos Tsopanoglou

**Assistant
Professors** Georgios Panayiotakopoulos

Lecturers -

Supporting -

**research
and
Technical
Staff**

The Pharmacology Department is responsible for teaching courses in Pharmacology, Toxicology and Clinical Pharmacology and Therapeutics which gradually unfold into two semesters. Teaching of Pharmacology is accomplished in two parts. The first part (Pharmacology I) includes the Basic Principles of Pharmacology and Toxicology and an introduction to the various Pharmacological Systems. The second part (Pharmacology II) focuses on System's Pharmacology with particular emphasis placed on Clinical Pharmacology and Toxicology. Moreover, the Laboratory offers a choice of elective courses aiming at a deeper understanding of specific issues of Pharmacology and Toxicology.

PHARMACO 2nd Year, 4th Semester (mandatory)

LOGY I

Hours Teaching: 3, Laboratories: 2, Tutorials:- (per week)

ECTS Units 6

Instructors K. Kypreos, N. Tsopanoglou, G. Panayiotakopoulos

Description

90.

	SCHOOL OF HEALTH SCIENCES	
	MEDICINE	
	UNDERGRADUATE	
	Med-431	4th
	PHARMACOLOGY I	
	3	6
	2	
	Field of Science	

	Greek
	Yes (to greek speaking students)
The purpose of this course is to introduce the medical student to the principles of Pharmacology (basic and clinical) and Toxicology.	
<ol style="list-style-type: none"> 1. Adapting to new situations. 2. Decision making. 3. Independent work. 4. Group work. 5. Work in an interdisciplinary environment. 6. Generating new research ideas. 7. Promoting free and creative thinking. 	

91.

<ol style="list-style-type: none"> 1. Introduction to the science of Pharmacology. 2. Pharmacokinetics. 3. Pharmacodynamics. 4. Principles of Toxicology. 5. The discovery and development of medicines.

- 6. Pharmacology of the autonomic nervous system.
- 7. Central nervous system pharmacology.
- 8. Pharmacology of inflammation and immune system.

92.

	Direct (face to face).	
	Specialized software	
	Lectures	23 h
	Tutorials	10 h
	Studying	69 h
		102 h
	I) Written final examination (50%) which includes: - Multiple choice questions with a brief explanation.	

PHARMACO 3rd Year, 5th Semester (mandatory)

LOGY II

Hours Teaching: 3, Laboratories: 2, Tutorials:- (per week)

ECTS Units 6

Instructors K. Kypreos, N. Tsopanoglou, G. Panayiotakopoulos

Description 93.

	SCHOOL OF HEALTH SCIENCES	
	MEDICINE	
	UNDERGRADUATE	
	Med-531	5th
	PHARMACOLOGY II	
	3	6
	2	
	Field of Science	
	Greek	
	Yes (to greek speaking students)	
<p>The purpose of this course is to familiarize the medical student to the integrated actions of drugs in the organs and various physiological systems.</p>		
<ol style="list-style-type: none"> 1. Adapting to new situations. 2. Decision making. 		

- 3. Independent work.
- 4. Group work.
- 5. Work in an interdisciplinary environment.
- 6. Generating new research ideas.
- 7. Promoting free and creative thinking.

94.

- 9. Medicines of the kidney cardiovascular system.
- 10. Chemotherapeutic drugs.
- 11. Endocrine system drugs.
- 12. Specialty Pharmacology.

95.

	Direct (face to face).	
	Specialized software	
	Lectures	23 h
	Tutorials	10 h
	Studying	69 h
		102 h

	I) Written final examination (50%) which includes: - Multiple choice questions with a brief explanation.
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- Goodman & Gillman's Manual of Pharmacology and Therapeutics, 2nd version, 2014

PHARMACO 3rd Year, 5th Semester (elective)

GENOMICS

Hours Teaching:-, Laboratories: 2, Tutorial:- (per week)

ECTS Units 4

Instructors K. Kypreos, N. Tsopanoglou, G. Panayiotakopoulos

COURSE OUTLINE

96. GENERAL

SCHOOL	LIFE SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	591	SEMESTER OF STUDIES	5th
COURSE TITLE	Pharmacogenomics		
		TEACHING HOURS PER WEEK	ECTS CREDITS

	2	4
COURSE TYPE <i>Υποβάθρου , Γενικών Γνώσεων, Επιστημονικής Περιοχής, Ανάπτυξης Δεξιοτήτων</i>	Scientific field	
PREREQUISITE COURSES:	Pharmacology I & II	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (to Greek speaking students)	
COURSE WEBPAGE (URL)		

97. LEARNING OUTCOMES

Leraning outcomes
<p>The main purpose of the course is to introduce the medical student to the correlation among genotype, pharmacological response and toxicity of drugs. Furthermore, the course focuses on the implication of fundamental principles of genetics in the personalization of drug therapy, prevention of toxicity and development of innovative therapeutics.</p> <p>Briefly the course covers the following topics:</p> <ul style="list-style-type: none"> • Phenotype, genotype, haplotype • Genetic polymorphisms • Genetic polymorphisms and pharmacological response • Correlation between genotype and phenotype • Genome Wide Strategies • Candidate gene approaches • SNPs in personalized medicine • Toxicogenomics

- Contribution of genomics in Forensic Toxicology

General Abilities

- Adaptation to new situations
- Decision making
- Unsupervised work
- Team work
- Work in the inter-scientific environment
- Production of new research ideas
- Promotion of free, constructive and inductive reasoning

98. COURSE CONTENT

Toxicology in everyday practice. Forensic Toxicology. Postmortem Pharmacokinetics, distribution and drug levels.

- ii. Therapeutic Drug Monitoring (TDM). Methods and clinical applications.
- iii. Clinical Studies. Planning, bioethics and interpretation
- iv. Originals or generics? Bio-equivalence and financial resources conservation
- v. Basic principles in prescribing medications. Common mistakes in prescribing. Over the counter medications. The cooperation between doctor and pharmacist.
- vi. Drug interactions with clinical significance : The Libby Zion case

- viii. Biological compounds. A novel Pharmacology
- ix. The significance of Pharmacovigilance in drug safety. The role of the physician.

99. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures in the amphitheater	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Powerpoint slides	
TEACHING ORGANIZATION	Activity	Work load per semester
	Lectures	
	Independent study	46
STUDENT ASSESSEMNT	<p>I. Written final exam with multiple choice questions with brief explanation</p> <p>II. Homework</p>	

100. RECOMMENDED LITERATURE

Publications in international peer-reviewed Journals

Description

COURSE OUTLINE

96. GENERAL

SCHOOL	LIFE SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	591	SEMESTER OF STUDIES	5th
COURSE TITLE	Clinical Pharmacology and Toxicology		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	2	4	
COURSE TYPE	Scientific field		
PREREQUISITE COURSES:	Pharmacology I & II		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO	Yes (to Greek speaking students)		

ERASMUS STUDENTS	
COURSE WEBPAGE (URL)	

97. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>The aim of the lectures is the comprehension of the basic principles of Clinical Pharmacology and Toxicology that are related with the appropriate and effective use of medicines in everyday clinical practice. Through case studies and problem based learning the students will become familiar with the application of the principles of Pharmacodynamics/Toxicodynamics and Pharmacokinetics/ Toxicokinetics in the optimization of pharmacological response and the minimization of undesirable and toxic effects. Special emphasis will be given to the significance of Therapeutic Drug Monitoring (TDM), bioequivalence and pharmacovigilance in everyday clinical practice. Last but not least, within the aims of the lectures will be to introduce Forensic Toxicology to the Medical students focusing on the importance of postmortem pharmacokinetics and tissue distribution of drugs in evaluating their levels in biological samples.</p>
General Abilities
<ul style="list-style-type: none"> -Adaptation to new situations -Decision making -Unsupervised work -Team work -Work in the inter-scientific environment -Production of new research ideas -Promotion of free, constructive and inductive reasoning

98. COURSE CONTENT

- Toxicology in everyday practice. Forensic Toxicology. Postmortem Pharmacokinetics, distribution and drug levels.
- ii. Therapeutic Drug Monitoring (TDM). Methods and clinical applications.
 - iii. Clinical Studies. Planning, bioethics and interpretation
 - iv. Originals or generics? Bio-equivalence and financial resources conservation
 - v. Basic principles in prescribing medications. Common mistakes in prescribing. Over the counter medications. The cooperation between doctor and pharmacist.
 - vi. Drug interactions with clinical significance : The Libby Zion case
 - viii. Biological compounds. A novel Pharmacology
 - ix. The significance of Pharmacovigilance in drug safety. The role of the physician.

99. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Lectures in the amphitheater	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Powerpoint slides	
TEACHING ORGANIZATION	<i>Activity</i>	<i>Work load per semester</i>

	Lectures	
	Independent study	46
STUDENT ASSESMENT	I. Written final exam with multiple choice questions with brief explanation II. Homework	

100. RECOMMENDED LITERATURE

Publications in international peer-reviewed Journals

THE 4th Year, 8th Semester (elective)
PHARMACO
LOGICAL
BASIS OF
THERAPEUT
ICS -
CONTRIBUTI
ON TO THE
PREPARATI
ON OF THE
NEW
DOCTOR

Hours Teaching: 2 , Laboratories:- , Tutorial: - (per week)

ECTS Units 4

Instructors G. Panayiotakopoulos, K. Kypreos

Description

ΠΕΡΙΓΡΑΜΜΑ ΜΑΘΗΜΑΤΟΣ

1. ΓΕΝΙΚΑ

	LIFE SCIENCES	
	MEDICINE	
	Undergraduate	
	MED_879	
	The Pharmacological basis of Therapeutics.Contribution to the preparation of the new doctor	
Lectures	2	4
	Scientific field, skills development	

	Greek
	Yes (to Greek speaking students)
	https://www.facebook.com/groups/405801169846103/ For registered users only

2.

<p>The aim of the lectures is familiarization with the relation between clinical pharmacology and therapeutics via the comprehension of the underlying pharmacological basis. Through a Problem based learning process (Case studies either of everyday practice or of particular interest) the students become capable of getting in touch with the basic principles of medical history, clinical examination, laboratory and imaging tests and their combination in order to reach a diagnosis and perform informed decision making. Particular emphasis is given to emergencies and situations that a young doctor is expected to encounter at the beginning of his/her career. The pharmacological and mechanistic basis of therapeutic decisions as well as common therapeutic protocols are analyzed and explained. Apart from the PBL sessions there is a number of lectures designed to present common medical conditions and their management (i.e respiratory tract infections, diabetic ketoacidosis, status epilepticus, acute coronary syndrome etc). Invited speakers on 'hot' topics may also participate depending on their availability.</p>
<ul style="list-style-type: none"> -Adaptation to new situations -Decision making

-Unsupervised work
-Team work
-Work in the inter-scientific environment
-Promotion of free, constructive and inductive reasoning
Demonstration of social, professional and moral responsibility
Development of judgement/self-judgement

3.

- i. Introduction to Therapeutics.
- ii. Acute Coronary syndromes-Acute pulmonary oedema
- iii. PBL (Acute Neuroborreliosis:The dilemmas in clinical practice)
- iv. Central Nervous System Infections.The paradigm of acute bacterial meningitis
- v. Upper and lower respiratory tract infections. New molecular diagnostic methods in Infectious Diseases
- vi. Management of the patient with dyslipidaemia/metabolic syndrome
- viii. Crisis management in the A+E department
- ix. PBL (Burkitt's lymphoma with autoimmune hemolytic anemia: Introduction to the clinical pharmacology of autoimmune and hematological disorders)

- | | |
|--|--|
| <p>x. PBL (Acute fulminant hepatitis with liver failure and transplantation: Clinical pharmacology of liver diseases and principles of transplantation)</p> <p>xi. Diabetes Mellitus.Diabetic ketoacidosis.Hyperosmotic coma.</p> <p>xii. PBL (Visceral Leishmaniasis on the top of Ischemic heart disease/Insulin dependent DM/Psoriatic arthritis/Chronic renal failure: Balancing between opposing decisions)</p> | |
|--|--|

he purpose of the course is the study and understanding of the pharmacological mechanisms underlying the therapeutic approach of various diseases that a young doctor may come across, especially under conditions of limited access to high technology where proper physical diagnosis is essential

DIVISION OF CLINICAL LABORATORIES

DEPARTMENT OF RADIOLOGY

Address University Hospital of Patras, 2nd floor
Tel: 2610-993987, 2610-999508 Fax: 2610-993987

LABORATORY STAFF

Director Professor Theodoros Petsas

Professors Dimitrios Kardamakis, D. Karnabatidis

Associate A. Solomou, D. Karnabatidis, X. Kalogeropoulou

Professors P. Zampakis, K. Katsanos

Assistant D. Spyropoulou

Professors

Lecturers

Laboratory teaching Panagiotis Tsiganos

Staff Dimitra Stamatopoulou

Supporting research and Technical Staff *Part of Integration I

INTRODUCTION TO RADIOLOGY 3rd Year, 6th Semester – Integration I (mandatory).

ION TO

RADIOLOGY Teaching: 25, Laboratories: -, Tutorials: -, Clinical training: -.

Hours 2

ECTS Units

T. Petsas, D. Kardamakis, A. Solomou, D. Karnabatidis, C. Kalogeropoulou, P. Zabakis, K. Katsanos, D. Spyropoulou, P. Tsiganos.

Teachers

COURSE OUTLINE

Description

101. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_681	SEMESTER OF STUDIES	6 th (mandatory)
COURSE TITLE	INTRODUCTION TO RADIOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	25x1	2	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in greek)
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED1061/

102. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>Aim of this teaching course is to make students familiar with basic imaging studies, relevant to clinical pra Moreover students will understand the indications, diagnostic approach and pathologic entities that will be tau in the future semesters.</p> <p>By the end of this introductory course on Radiology, the student must have knowledge and skills in order to familiar with:</p> <ul style="list-style-type: none"> • The basic principles of medical imaging • The main medical imaging modalities used in clinical practice • How to perform radiological examinations • The basic indications of radiological examinations • The basic radiological anatomy by system • The basic biological effects of medical imaging modalities • The dangers about unjustified exposure to radiological examinations
General Abilities

- Searching, analysis and synthesis of facts and information, as well as using the necessary technologies
- Adaptation to new situations
- Decision making
- Work in a interdisciplinary environment
- Demonstration of social, professional and ethical responsibility

103. COURSE CONTENT

The study material comprises:

- Principles of physics in Radiology, production of medical image, -principles of operation of medical imaging modalities (X-ray tube- computed tomography-ultrasound-MRI),
- Principles of radiobiology, with emphasis on the mechanisms of cell death, apoptosis and means of protection of the cell,
- Application of special radiological techniques with emphasis in modern imaging modalities
- Radiologic anatomy of organs and systems (CNS-respiratory-gastrointestinal- urogenital-

musculoskeletal-cardiovascular system and vessels)

104. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Multimedia presentations in lectures Support of the Learning process by means of the e-class electronic platform	
TEACHING ORGANIZATION		
	Lectures	25
	Private Study	10
STUDENT ASSESSMENT	Written final multiple-choice examination (in greek)	

105. RECOMMENDED LITERATURE

RADIOLOGY 4th Year, 8th Semester (mandatory).

Hours Teaching: 50, Laboratories: -, Tutorials: -, Clinical training:-

ECTS Units 5

Teachers T. Petsas, D. Kardamakis, A. Solomou, D. Karnabatidis, C. Kalogeropoulou, P. Zampakis, K. Katsanos, D. Spyropoulou.

Description

COURSE OUTLINE

106. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_85 1	SEMESTER OF STUDIES	8 th (mandatory)
COURSE TITLE	RADIOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	Lectures	25x2	5
	Tutorials	25x1	
COURSE TYPE	Field of Science		

PREREQUISITE COURSES:	
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in greek)
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED1062/

107. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>The aim of this training course is the knowledge of the basic imaging findings in common disease and understand the implementation of modern radiology in the diagnostic and therapeutic approach of the inpatients as well those in primary care.</p> <p>By the end of the teaching course of radiology the students will gain knowledge and skills which will help them:</p> <ul style="list-style-type: none"> • To prioritize by organ and disease –which examination is best for imaging common diseases • Gain Knowledge of main imaging findings in each disease. • Correlate imaging findings and the pathogenesis of disease. • To link imaging findings with the signs and symptoms of disease. • To implement the main therapeutics of interventional radiology /neuroradiology • To apply the main indications and methods in radiotherapy
General Abilities

- Searching, analysis and synthesis of facts and information, as well as using the necessary technologies
- Adaptation to new situations
- Decision making
- Work in a interdisciplinary environment
- Demonstration of social, professional and ethical responsibility
- Promotion of free, creative and inductive thinking

108. COURSE CONTENT

The teaching units comprise:

- The main pathologic findings by system approach [CNS – respiratory system - GI system - cardiovascular – musculoskeletal - urogenital]
- Focus on the main imaging findings of the most common diseases
- Differential diagnosis of main diseases by system
- Interventional radiology/neuroradiology – indications and techniques of diagnostic and therapeutic interventional radiology with emphasis in their main and more common applications in clinical practice
- Emergency radiology (diagnostic and therapeutic problems)
- Modern imaging methods and their implementation in clinical praxis (CT angiography, MRI angiography, DWI, MR spectroscopy)
- Basic indications for radiotherapy
- Basic imaging methods used in oncology (diagnosis and therapeutic response)
- Basic principles of radiation protection and impact of ionizing radiation in humans

109. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Multimedia presentations in lectures Support of the Learning process by means of the e-class electronic platform	
TEACHING ORGANIZATION		
	Lectures	50
	Tutorials	25
	Private Study	10
STUDENT ASSESSMENT	Written final multiple-choice examination (in greek)	

110. RECOMMENDED LITERATURE

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CLINICAL TRAINING IN RADIOLOGY 6th Year, 11th and 12th Semester (elective).

Hours

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 70

ECTS Units

4

Teachers

T. Petsas, D. Kardamakis, A. Solomou, D. Karnabatidis, C. Kalogeropoulou, P. Zampakis, K. Katsanos, D. Spyropoulou, P. Tsiganos

Description

Clinical Training in Radiology (elective) is part of the sixth year of undergraduate studies, in the 11th and 12th semesters and has a duration of 2 weeks.

COURSE OUTLINE

Description

111. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_11 74	SEMESTER OF STUDIES	11th and 12th (elective)
COURSE TITLE	CLINICAL TRAINING IN RADIOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Seminar Lectures	2,5x2		
Clinical Training	35x2	4	

COURSE TYPE	Skills Development
PREREQUISITE COURSES:	
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in greek)
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED1155/

112. LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> • <p>The activities on this clinical training offer students the opportunity to develop their basic knowledge of modern diagnostic and therapeutic Radiology, but mainly to develop skills in making decisions about the choice of the appropriate imaging examination, according to the clinical</p>

scenario.

This knowledge and skills are essential in all contemporary medical specialties, because all physicians use diagnostic methods of radiology in the care of their patients

General Abilities

- Searching, analysis and synthesis of facts and information, as well as using the necessary technologies
- Adaptation to new situations
- Decision making
- Autonomous (Independent) work
- Group work
- Work in a interdisciplinary environment
- Promotion of free, creative and inductive thinking

113. COURSE CONTENT

Clinical Training in Radiology (elective) is part of the sixth year of undergraduate studies, in the 11th and 12th semesters and has a duration of 2 weeks.

Small groups of up to five students are rotated through all Radiology departments. Students follow the full program of the Laboratory. They familiarize with all diagnostic radiology procedures but also with the therapeutic procedures of interventional radiology – neuroradiology.

Additionally, in association with the academic staff of the Laboratory, students follow the procedure of medical reporting and learn to interpret the imaging study findings in the context of the clinical picture and medical history of the patient. Students also attend the educational activities of the department, which include morning lectures and meetings with physicians of various specialties. Students also attend a series of lectures on the basic principles of imaging modalities and also on radiation protection issues.

In order to familiarize with emergency cases, students must spend on-call time once in the Radiology department

114. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Seminars, Clinical Training - Job shadowing	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Multimedia presentations in seminars Support of the Learning process by means of the e-class electronic platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Seminars	5
	Clinical Training	70

STUDENT ASSESSMENT	Comprehensive assessment of the student participation in the procedures of the Clinical Radiology Laboratory	

115. RECOMMENDED LITERATURE

--

6th Year, 11th and 12th Semester (elective).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 70

4

D. Kardamakis, D. Spyropoulou, M. Stavridi

COURSE OUTLINE

116. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_11 71	SEMESTER OF STUDIES	11th and 12th (elective)
COURSE TITLE	RADIOBIOLOGY -RADIOTHERAPY		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS

	Clinical Training	35x2	4
COURSE TYPE	Skills Development		
PREREQUISITE COURSES:	Medical Physics		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in english)		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED858/		

117. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •
<p>The aim of this course is to present:</p> <ul style="list-style-type: none"> • the main mechanisms of action of ionizing radiation in cells and organisms • methods of protection against the use of ionizing radiation in medicine • their application in the treatment of malignant and non-malignant diseases

General Abilities

**RADIOBIOLOGY -
RADIOTHERAPY**
Hours
ECTS Units
Teachers

Description

- Searching, analysis and synthesis of facts and information, as well as using the necessary technologies
- Adaptation to new situations
- Decision making
- Autonomous (Independent) work
- Group work
- Work in a interdisciplinary environment
- Promotion of free, creative and inductive thinking

118. COURSE CONTENT

The course includes:

- The action of ionizing radiation on cell.

- Repair of radiation injury.
- Radiosensitivity of normal tissues and tumors.
- Radiosensitising and Radioprotective substances.
- Applications of radiobiology in radiotherapy.
- Radiation protection
- Radiation Protection principles in Radiology and Radiotherapy – Current applicable Legislation

119. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Clinical Training - Job shadowing	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support of the Learning process by means of the e-class electronic platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Clinical Training	70
STUDENT ASSESSMENT	Oral assessment	

120. RECOMMENDED LITERATURE

The course notes and recent articles are available from the above University of Patras e-class platform

DEPARTMENT OF MICROBIOLOGY

- Address**
- Preclinical Research Building – University of Patras campus (Rion)
Tel. 2610-997632, 2610-996111
 - University Hospital of Patras, 2nd floor
Tel. 2610-999660, 2610-999661, 2610-993978, Fax: 994.922

LABORATORY STAFF

Director Professor Fotini Paliogianni Evaggelos Anastasiou

Professors Fotini Paliogianni, Iris Spiliopoulou – Sdougou, Fotini Paliogianni Mirto Christofidou

Associate Professors Fevronia Kolonitsiou

Mirto Christofidou

Assistant Professors Fevronia Kolonitsiou

Lecturers -

**Supporting research
and Technical Staff** A. Xatzioglou, M. Antoniou

Administrative Staff K. Ioannou

***Part of «Bioethics» course in the 3rd year**

MICROBIOLOGY I 2nd Year, 4th Semester (mandatory)

Hours Teaching: 5, Laboratories: 3, Tutorial: -, Clinical training: - (per week).

ECTS Units 6

Teachers I. Spiliopoulou – Sdougou, F. Paliogianni, M. Xristofidou, F. Kolonitsiou.

I. Spiliopoulou – Sdougou, F. Paliogianni, M. Xristofidou, F. Kolonitsiou.

Laboratories

COURSE OUTLINE

121. GENERAL

SCHOOL	LIFE SCIENCES		
DEPARTMENT	SCHOOL OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED- 441	SEMESTER OF STUDIES	4th
COURSE TITLE	MICROBIOLOGY I		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	3	6
	Laboratory training	3	
COURSE TYPE	Scientific Area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)			

122. LEARNING OUTCOMES

Learning outcomes

-

The course of Microbiology is a link between basic sciences and clinical medicine and deals with the etiology and pathogenesis of infectious diseases and the functioning of the Immune System.

In particular, this course is an introduction to microbiology that provides a strong grounding in fundamental aspects of the basic biology of bacteria as well as a strong grounding in molecular biology and microbial genetics. Emphasis is placed on the study of infectious diseases of humans. Additionally, this course (Microbiology I) is an introduction to the fundamental principles of function of the immune system and the understanding of the mechanisms involved in response to infection, or disorders such as immunodeficiency, malignancy and autoimmunity.

In the laboratory exercises, the students are introduced in a. Basic microbiology techniques (stains, antimicrobial susceptibility testing and b. techniques based on antigen-antibody interaction that are used in the clinical laboratory for diagnosis of infection, autoimmunity or immunodeficiency.

At the end of the educational process the students:

- Understand the role of the immune system in disease protection and pathogenesis of immunodeficiency or autoimmune disorders.
- They are trained to communicate effectively using the correct terms describing the immune response and its mechanisms of regulation.
- They learn about assays and techniques employed in research and clinical laboratories to develop technical understanding and clinical interpretation of results.
- They develop scientific behavior and acquire cognitive skills in solving the clinical problem.

General Abilities

Study, analysis and synthesis of data, with the use of required technologic advances
Decision making
Autonomous task management
Team working
Generation of novel research ideas

123. COURSE CONTENT

GENERAL MICROBIOLOGY

General properties of microorganisms: cytology of prokaryotic cells, nomenclature and classification of bacteria, growth and metabolism of bacteria. General properties of fungi, parasites and viruses

Bacterial Genetics: Plasmids, bacteriophages, transposons, gene transfer.

Effects of the environment on microbes: Sterilization, chemotherapeutic agents

BASIC IMMUNOLOGY

Anatomical organization of the immune system: General properties, Cells and tissues of the Immune System.

Innate Immunity: Components: Epithelial Barriers, Phagocytes, Circulating Proteins. Cytokines. Role of Innate Immunity in Local and Systemic Defense Against Microbes, Role in Stimulating Adaptive Immune Response.

Complement: Proteins and activation. Regulation and biological properties.

Antigens - Antibodies: Immunogens - Haptens. Structure and biological properties.

Major histocompatibility system: Structure of MHC Molecules, Properties, Genomic Organization of the MHC. Antigen Processing and Presentation of Antigens to T Lymphocytes.

Antigen receptor and Accessory Molecules of T-lymphocytes: TCR: $\alpha\beta$ TCR, CD3 and ζ proteins, $\gamma\delta$ TCR, Other Accessory Signalling Molecules. Lymphocyte Maturation and Expression of Antigen Receptor Genes. Role of Costimulators in T cell Activation, Signal Transduction by TCR.

T-cell subpopulations: CD4+ / CD8+, Activation of T Lymphocytes: General Features.

Effector Mechanisms of Cell-Mediated Immunity: Development of Effector T cells, Migration of Effector T cells and other cells to Sites of Antigen. Effector Mechanisms. T-cell memory

Macrophages: Role in T-cell activation and function
B Cell activation: Antigen Recognition and activation. Helper T Cell-Depended Antibody Response. Regulation of Humoral Immune Response.
Immunologic Tolerance: General Features and Mechanisms, T Lymphocyte Tolerance, B Lymphocyte Tolerance, Termination of Normal Immune Response. Cytokines.
Disease Caused by Immune Response: Hypersensitivity Reaction I, II, III, IV. Autoimmunity: Immune tolerance and autoimmunity.
Immune response to : Tumors, Infection- Active-passive immunization, Transplantation Immunology.
Congenital and acquired immunodeficiencies. Primary deficits in B and T lymphocyte function. Combined immunodeficiencies.
 During the **laboratory exercises** are developed microbiological techniques: Gram staining, Ziehl-Neelsen staining. Identification of bacteria by biochemical assays, Antimicrobial Susceptibility Testing of bacteria. Principles and applications of immunological techniques applied in the diagnosis of infectious and / or autoimmune diseases: Immunoagglutination, Immunoprecipitations, Immunoelectrophoresis, Nephelometry, Immunofluorescence, ELISA.

124. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Class-room presentations in the amphitheatres and the microscopes' room of the School of Medicine
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures are performed with PowerPoint presentations by using a PC and a projector. Laboratory training is performed in the laboratories of the medical school. Small groups of students perform diagnostic tests, such as: Immunoagglutination, Immunoprecipitation, Immunoelectrophoresis, ELISA

TEACHING ORGANIZATION		
	Lectures	42
	Laboratory exercises focusing on the understanding of laboratory diagnostic methods	42
	Personal Studying	66
	Total (25 hours per unit)	150
STUDENT ASSESMENT	<p>Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of:</p> <ul style="list-style-type: none"> • Clinical problems, justifying the answer chosen. • Multiple choice questions, matching and right/wrong questions in order to evaluate students' knowledge of the theory 	

125. RECOMMENDED LITERATURE

Greek translation of IMMUNOLOGY 2nd edition, 2012, BY Goldsby R., Kindt T., Osborne B., Kuby J.

ISBN: 978-9963-716-14-2

PUBLISHER: BROKEN HILL PUBLISHERS LTD

NOTES IN «BASIC MICROBIOLOGY AND MICROBIAL GENETICS» by E.D.Anastassiou-I.Spiliopoulou(e-class)

Power point Immunology lectures - e-class

MICROBIOLOGY II**Hours****ECTS Units****Teachers****Laboratories**3rd Year, 5th Semester (mandatory).

Teaching: 6, Laboratories: 3, Tutorial: -, Clinical training: - (per week).

6

I. Spiliopoulou – Sdougou, F. Paliogianni, M. Xristofidou, F. Kolonitsiou.

I. Spiliopoulou – Sdougou, F. Paliogianni, M. Xristofidou, F. Kolonitsiou.

COURSE OUTLINE**126. GENERAL**

SCHOOL	LIFE SCIENCES		
DEPARTMENT	SCHOOL OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_541	SEMESTER OF STUDIES	5th
COURSE TITLE	MICROBIOLOGY II		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	3	6	
Laboratory training	3		

COURSE TYPE	Scientific Area
PREREQUISITE COURSES:	
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBPAGE (URL)	

127. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none"> • <p>Microbiology is the link between basic science and clinical medicine and deals with the etiology and pathogenesis of infectious disease. Specifically Microbiology II course covers the medical and molecular aspects of bacteriology, virology, and mycology with emphasis on pathogenetic properties of medically important pathogens and the clinical manifestations of infectious diseases. Basic principles of laboratory diagnosis, antibiotic sensitivity and the possible mechanisms of resistance of the bacteria are also described.</p> <p>At the end of the educational process the students:</p> <ul style="list-style-type: none"> • Understand the pathogenetic mechanisms of infectious diseases and the need for targeted treatment for each micro-organism • Recognize the role of the laboratory in diagnosis, treatment and outcome of an infectious disease. • Recognize and use medical terms.

- They shape scientific behavior.
- They acquire documented knowledge and cognitive skills necessary for practicing medicine (observation, analysis, resolution of a clinical problem).

General Abilities

Study, analysis and synthesis of data, with the use of required technologic advances
 Decision making
 Autonomous task management
 Team working
 Generation of novel research ideas

128. COURSE CONTENT

Clinical Bacteriology:

Gram (+) cocci: Staphylococci, Streptococci, Enterococci. Gram (+) bacteria: Corynebacteria, Listeria, Bacilli, Clostridium. Gram (-) cocci: Meningococcus, Gonococcus. Gram (-) bacteria: Pseudomonas, Brucella, Bordella, Enterobacteriaceae, Vibrio, Haemophilus, Legionella. Spirochaetales: Treponema, Borrelia, Leptospira. Spiroids: Campylobacter, Helicobacter. Mycobacteria: Mycobacterium tuberculosis, Mycobacteria non-tuberculosis, Mycobacterium leprae. Actinomyces. Nocardia. Rickettsia, Chlamydia, Mycolpasma.

Clinical Virology:

RNA viruses: Picornaviruses: Enteroviruses (Polio viruses, Coxsackie A & B viruses, ECHO viruses, Enteroviruses 68-71) and Rhinoviruses. Reoviruses: Reo-viruses, Rota-viruses. Toga-viruses: Rubella virus. Myxoviruses, Orthomyxoviruses, Influenza viruses. Paramyxoviruses: mumps virus, measles virus, Paramyxoviruses 1, 2, 3 and 4, Respiratory Syncytial Virus. Rabdoviruses: rabies virus. Retroviruses: HTLV I & II, HIV.

DNA viruses: Papovaviruses: Human Papilloma Viruses. Adenoviruses. Herpesviruses: types 1- 8. Varicella zoster virus. Cytomegaloviruses(CMV). Epstein-Barr virus (EBV).

Specific clusters: Arboviruses. Hepatitis viruses: HAV, HBV, HCV, HDV, HEV, GBV-G or HGV. Slow

viruses.

Clinical Parasitology:

Introduction to Parasitology - Classification. **Protozoa:** E. histolytica, Naegleria, Acanthamoeba. Giardia lamblia, Trichomonas vaginalis. **Blood and tissue protozoa:** Leishmania donovani, Leishmania tropica, Leishmania mexicana, Leishmania braziliensis complex, Trypanosoma cruzi, T. gambiense, T. rhodesiense. **Apicomplexa :** Toxoplasma gondii, Plasmodium malariae, P. falciparum, P. ovale, P. vivax. **Sarcocystis:** Cryptosporidium parvum. Pneumocystis jirovecii.

Nematodes: Strongyloides stercoralis, Enterobius vermicularis, Ascaris lumbricoides. **Cestodes-** General. Taenia saginata, Taenia solium, Echinococcus granulosus. **Trematodes** - General. Schistosoma mansoni, S. haematobium, S. japonicum.

Clinical Mycology:

Introduction to Clinical Mycology - General characteristics of fungi, pathogenic fungi for humans (pathogenesis, clinical diseases, laboratory diagnosis), antifungal agents. Cutaneous and Subcutaneous Mycoses- Dermatophytes: Microsporum, Trichophyton, Epidermophyton, Non dermatophytes: Malassezia, Scopulariopsis, Fusarium:clinical disease, laboratory diagnosis. Opportunistic Mycoses: Candida, Cryptococcus, Aspergillus, Zygomycetes (pathogenesis, clinical disease, laboratory diagnosis).

129. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Class-room presentations in the amphitheatres and the microscopes' room of the School of Medicine. Laboratory training is performed by the use of real clinical specimens and cultures of bacteria. Basic methods of identification (staining, biochemical tests) and antimicrobial susceptibility are also performed.		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures are performed with PowerPoint presentations by using a PC and a projector in laboratory. The educational process is supported by e-class platform.		
TEACHING ORGANIZATION	<table border="1"><tr><td><i>Δραστηριότητα</i></td><td><i>Φόρτος Εργασίας</i></td></tr></table>	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας</i>
<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας</i>		

		Εξαμήνου
	Lectures	42
	Laboratory exercises focusing on the understanding of the diagnostic approach of infectious diseases in different clinical settings (infections of blood, respiratory tract, CNS, urinary tract)	42
	Personal Studying	66
	Total (25 hours per unit)	150
STUDENT ASSESSEMNT	<p>Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of:</p> <ul style="list-style-type: none"> •Clinical problems, justifying the answer chosen. •Multiple choice questions, matching and right/wrong questions in order to evaluate students' knowledge of the theory 	

130. RECOMMENDED LITERATURE

Greek translation of **Medical Microbiology** (9th edition) by Patric Murray, Kens Rosenthal and Michael Pfaller. Parisianou publishing 201 , original

Greek translation of **Review of Medical Microbiology and Immunology** (11th edition) by Warren Levinson

Εισαγωγή στην Κλινική Μικροβιολογία και τα Λοιμώδη Νοσήματα . Γεώργιος

Δημητρακόπουλος. ΙΑΤΡΙΚΕΣ ΕΚΔΟΣΕΙΣ ΠΑΣΧΑΛΙΔΗ, 1998

Κλινική Μικροβιολογία . Γεώργιος Δημητρακόπουλος. ΙΑΤΡΙΚΕΣ ΕΚΔΟΣΕΙΣ ΠΑΣΧΑΛΙΔΗ, 1993

e-class power point presentation

**MICROBIOLOGY-
CLINICAL TRAINING**

Hours

6th Year, 11th and 12th Semester (elective).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (The clinical training takes place with 3-4 students groups, in the morning on working days in the hospital laboratory for 3 weeks).

4

ECTS Units

Description

COURSE OUTLINE

131. GENERAL

SCHOOL	LIFE SCIENCES		
DEPARTMENT	SCHOOL OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED115 5	SEMESTER OF STUDIES	11 th -12 th

COURSE TITLE	ELECTIVE CLINICAL TRAINING IN MICROBIOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Clinical Training	25	4	
COURSE TYPE	Scientific Area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)			

132. LEARNING OUTCOMES

Learning outcomes

-

The elective clinical training in Microbiology aims to familiarize students with the entire spectrum of methods and practices used in the clinical laboratory of a tertiary hospital for diagnosis of infectious and autoimmune diseases. Students are also trained to communicate precisely and efficiently with clinical doctors and discuss diagnostic algorithms.

Students are actively involved in the following diagnostic procedures:

- Cultures of biological fluids (urine, blood, pus), conventional and automated microbe identification techniques, as well as antimicrobials sensitivity tests (1st week).

- Serological tests such as agglutination test, immunofluorescence, ELISA, CMEIA, nephelometry, immunofixation and the use of automatic analyzers (2nd week)
- Critical evaluation of laboratory data, establishment of diagnostic algorithms in the context of specific clinical problem, effective communication with their clinical counterparts.
- Active involvement in Microbiology-Immunology-Clinical Biochemistry courses (curriculum designed for Clinical Pathology residents).

General Abilities

Study, analysis and synthesis of data, with the use of required technologic methods
 Decision making
 Autonomous and Team working
 Generation of novel research ideas

133. COURSE CONTENT

- Students in small teaching groups of 2-3 persons, observe and/or are actively involved (where possible) the diagnostic procedures performed in the clinical Microbiology-Immunology laboratory for two weeks. In particular, they critically interpretate results of many diagnostic procedures performed in the clinical laboratory in the context of real clinical problems, involving infection, immunodeficiency and autoimmunity.
- Precise and effective communication with clinical counterparts.
- Participation in training courses designed for Biopathology residents.



134. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Attendance at the Department of Microbiology, University General Hospital of Patras	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Solving clinical cases with the use of internet and lectures by using PowerPoint	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Clinical training focused on theory comprehension by discussing clinical cases and Microbiological laboratory findings	50
	Personal Studying	50
	Total (25 hours per unit)	100
STUDENT ASSESSMENT	Assessment is undertaken in the Greek Language with oral (100%) and is comprised of: <ul style="list-style-type: none">• Short answer questions based on a simple clinical case order to evaluate student's understanding of the the	

135. RECOMMENDED LITERATURE

- 1) Review of Medical Microbiology and Immunology 11th edition. Warren Levinson (πρωτότυπη έκδοση) Ανασκόπηση Ιατρικής Μικροβιολογίας και Ανοσολογίας, Επιστημονικές Εκδόσεις Παρισιάνου Α.Ε., ;

2) Medical Microbiology 5th edition. Murray, Rosenthal, Pfaller (πρωτότυπη έκδοση 2008) Ιατρική Μικροβιολογία. Επιστημονικές Εκδόσεις Παρισιάνου Α.Ε., 2010

DEPARTMENT OF PATHOLOGY

Address University Hospital of Patras, 2nd floor
Secretarial office: Tel. 2610-991810
Fax: 2610-991810
Email: pathology@upatras.gr

LABORATORY STAFF

Director Professor Maria Melachrinou, M.D.

Professors Vassiliki Zolota, M.D.

Associate Professors Helen Kourea, M.D.

Assistant Professors Vassiliki Tzelepi, M.D.

Lecturers -

Teacher 407/80 -

Supporting research and Vassiliki Polydorou, Ekaterini Vourda

Technical Staff

***Part of Integration I & II**

PATHOLOGY I**Hours**2nd Year, 4th Semester (mandatory).

Teaching: 4, Tutorials - Laboratory-based Learning: 3, Clinical training: - (per week).

6

ECTS Units**Teachers**

M. Melachrinou, V. Zolota, H. Kourea, V. Tzelepi.

Description**COURSE OUTLINE****136. GENERAL**

SCHOOL	LIFE SCIENCES		
DEPARTMENT	SCHOOL OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED451	SEMESTER OF STUDIES	4th
COURSE TITLE	PATHOLOGY I		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	4	6	
Laboratory training	3		
COURSE TYPE	Scientific Area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)			

137. LEARNING OUTCOMES

Learning outcomes

-

Pathology is the link between basic science and clinical medicine and deals with the pathogenesis and the nature of various diseases, as well as the study of the structural, histologic and functional changes that underlie disease.

Specifically, Pathology I studies the fundamental origin of disease and its causes, examines the mechanisms through which alterations are established, and describes the morphologic and functional changes as well as explains the effects of diseases in various tissues and organs.

Students are introduced in the concept of clinicopathologic correlation by studying characteristic cases.

At the end of the educational process the students:

- Understand the etiology, pathogenesis and clinical symptoms of the disease
- Understand the role of the Pathology Laboratory
 - A. In the diagnosis of diseases through analysis and correlation of clinical information with the macroscopic and microscopic changes of the affected tissue.
 - B. In the therapy of diseases, especially neoplasia, by the identification of markers related to tumor prognosis or their response in various types of treatments.
- Are introduced in routine and advanced histologic and molecular techniques
- Understand and use medical terminology
- Demonstrate scientific behavior

- Communicate evidence-based knowledge
- Acquire cognitive skills indispensable to medical practice (observation, analysis, clinical problem solving)

General Abilities

Study, analysis and synthesis of data, with the use of required technologic advances
 Decision making
 Autonomous task management
 Team working
 Generation of novel research ideas

138. COURSE CONTENT

GENERAL PATHOLOGY

Cell Injury, Cell Death, and Adaptations. Cellular Responses to Stress and Noxious Stimuli. Causes of Cell Injury. Morphologic Manifestations of Cell and Tissue Injury. Mechanisms of Cell Injury. Examples of Cell Injury and Cell Death. Apoptosis. Intracellular Accumulations. Cellular Aging.

Acute and Chronic Inflammation. Acute Inflammation. Morphologic Patterns of Acute Inflammation. Mediators of Inflammation. Chronic Inflammation. Systemic Effects of Inflammation.

Tissue Repair: Regeneration, Healing and Scarring. Control Mechanisms of Cell proliferation. The nature and Mechanisms of Action of Growth Factors. The extracellular Matrix and its Cross-reaction with Cells. Regeneration of Cells and Tissues. Repair by Scarring. Healing of a Skin Wound. Factors that Affect Wound Repair.

Hemodynamic Disorders, Thromboembolism, and Shock. Edema. Hyperemia and Congestion. Hemorrhage. Hemostasis and Thrombosis. Embolism. Infarction. Shock.

Diseases of the Immune System. Innate and Adaptive Immunity. Cells and Tissues of the Immune System. Normal Immune Responses. Hypersensitivity Reactions: Mechanisms of Immune-mediated Injury. Rejection of Transplants. Autoimmune Diseases. Immunodeficiency Syndromes. Amyloidosis.

Neoplasia. Nomenclature. Characteristics of Benign and Malignant Neoplasms. Epidemiology. Carcinogenesis: the Molecular Basis of Cancer. Etiology of Cancer: Carcinogenic Agents. Host Defense against Tumor: Tumor Immunology. Clinical Aspects of Neoplasia.

Genetic and Pediatric Diseases.

Genetic Diseases: Mutations. Mendelian Disorders. Complex Multigenic Disorders. Cytogenetic Disorders. Single-Gene Disorders With Atypical Patterns of Inheritance. The Role of Epigenetics.

Pediatric Diseases. Congenital Anomalies. Perinatal Infections. Prematurity and Fetal Growth Restriction. Respiratory Distress Syndrome of the Newborn. Necrotizing Enterocolitis. Sudden Infant Death Syndrome (SIDS). Fetal Hydrops. Tumors and Tumorlike Lesions of Infancy and Childhood. Molecular Diagnosis of Genetic Disorders.

Environmental and Nutritional Diseases. General Mechanisms of Toxicity. Environmental Pollution. Effects of Tobacco. Effects of Alcohol. Injury by Therapeutic Drugs and Drugs of Abuse. Injury by Physical Agents. Nutritional Diseases.

General Pathology of Infectious Diseases. Newly Emerging and Reemerging Infectious Diseases. Types of Infectious Agents. Transmission and Dissemination of Microbes. Immune Evasion by Microbes. How Microorganisms Cause Disease. Techniques for Identifying Infectious Agents.

SYSTEMIC PATHOLOGY

Blood Vessels. Normal Blood Vessels. Congenital Anomalies. The cells of the Vascular Wall and their Response to Injury. Arteriosclerosis. Atherosclerosis. Hypertensive Vascular Disease. Aneurysms and Dissections. Vasculitis. Raynaud Phenomenon. Veins and Lymphatics. Tumors and Tumor-Like Conditions. Pathology of Vascular Intervention.

Heart. Heart Failure. Congenital Heart Disease. Ischemic Heart Disease. Hypertensive Heart Disease. Valvular Heart Disease. Cardiomyopathies and Myocarditis. Pericardial Disease. Cardiac Tumors. Cardiac Transplantation.

139. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Class-room presentations in the amphitheatres and the microscopes' room of the School of Medicine	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures are performed with PowerPoint presentations by using a PC and a projector. Laboratory training is performed by slide demonstration through Virtual Microscopy and Panoramic Viewer software. Small Group of students review re-cuts of the same slide under an optical microscope. The educational process is supported by e-class platform.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	56

	Laboratory training that focuses on understanding the theoretical background through discussion of clinical cases and demonstration of specimens and histologic slides	42
	Personal Studying	52
	Total (25 hours per unit)	150
STUDENT ASSESSEMNT	<p>Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of:</p> <ul style="list-style-type: none"> • Multiple choice questions based on a short clinical history with short analysis of the given answer in order to evaluate students' ability to integrate data from the theory • Matching and right/wrong questions in order to evaluate students' knowledge of the theory • Short answer questions in order to evaluate student's understanding of the theory 	

140. RECOMMENDED LITERATURE

1. Greek translation of Robbins Basic Pathology, 9th Edition, by V. Kumar, A. Abbas, J. Aster, Parisianou Publishing, 2016, (original edition 2013)
2. Greek translation of Robbins and Cotran Atlas of Pathology, 3rd Edition by E. Klatt, Parisianou Publishing, 2018 (original edition 2014)

The PowerPoint presentations of the lectures, and the study guides are uploaded at the eclass platform.

Useful sites

- a) <https://library.med.utah.edu/WebPath/webpath.html>
(Webpath the Internet Pathology Laboratory)
- b) <http://www.virtualpathology.leeds.ac.uk/ug/>
(Leeds University Pathology E-learning)
- c) <http://zoomify.lumc.edu/path/genpath/genpath.htm>
- d) <http://zoomify.lumc.edu/path/virtualpath.htm>
- e) <http://www.stitch.luc.edu/lumen/lessons.cfm>
- f) <http://www.pathguy.com/>
(The Pathology Guy - Online Help)
- g) <http://www.meddean.luc.edu/lumen/MedEd/Histo/htm>
- h) <http://www.udel.edu/biology/Wags/histopage/histopage.htm>

PATHOLOGY II**Hours****ECTS Units****Teachers**3rd Year, 5th Semester (mandatory).

Teaching: 4, Tutorials - Laboratory-based Learning: 3, Clinical training: - (per week).

6

M. Melachrinou, V. Zolota, H. Kourea, V. Tzelepi.

COURSE OUTLINE**141. GENERAL**

SCHOOL	LIFE SCIENCES		
DEPARTMENT	SCHOOL OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED511	SEMESTER OF STUDIES	5th
COURSE TITLE	PATHOLOGY II		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	4	6	
Laboratory training	3		
COURSE TYPE	Scientific Area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)			

142. LEARNING OUTCOMES

Learning outcomes

-

Pathology is the link between basic science and clinical medicine and deals with the pathogenesis and the nature of various diseases, as well as the study of the structural, histologic and functional changes that underlie disease.

Specifically, Pathology II studies one by one all organ systems of the human body, describes the etiology, epidemiology, and the signs and symptoms and results of the main laboratory tests of their common diseases, studies their pathogenesis and provides morphologic and functional descriptions of the alterations induced in cells and tissues by these diseases.

Students are introduced in the concept of clinicopathologic correlation by studying characteristic cases.

At the end of the educational process the students:

- Understand the pathogenetic mechanisms of the disease from the molecular to the microscopic and macroscopic level
- Understand the importance of the clinicopathologic correlation (correlate the clinical and laboratory findings in order for the student to understand the etiology, pathogenesis and clinical symptoms of the disease).
- Understand the role of the clinical laboratory (Pathology incorporates the information they obtain from the gross and microscopic examination of the tissues and attribute in the diagnosis, therapy, observation and understanding of the evolution of the disease process).
- Understand and use medical terminology
- Demonstrate scientific behavior
- Acquire cognitive skills indispensable to medical practice (observation, analysis, clinical problem solving)

General Abilities

Study, analysis and synthesis of data, with the use of required technologic advances
Decision making
Autonomous task management
Team working
Generation of novel research ideas

143. COURSE CONTENT

Hematopoietic and Lymphoid Systems. *Red Cell Disorders:* Anemia of Blood Loss: Hemorrhage. Hemolytic Anemia. Anemia of Diminished Erythropoiesis. Laboratory Diagnosis of Anemia. Polycythemia. *White Cell Disorders:* Nonneoplastic Disorders of White Cells. Neoplastic Proliferations of White Cells. *Bleeding Disorders:* Disseminated Intravascular Coagulation (DIC). Coagulation Disorders. *Disorders of the Spleen and Thymus:* Splenomegaly. Disorders of the Thymus

Lung. Acute Respiratory Distress Syndrome. *Obstructive Versus Restrictive Pulmonary Diseases:* Obstructive Lung (Airway) Diseases. Chronic Interstitial (Restrictive, Infiltrative) Lung Diseases. Pulmonary Diseases of Vascular Origin. Pulmonary Infections. Lung Tumors. Pleural Lesions. Lesions of the Upper Respiratory Tract.

Kidney and Its Collecting System. Glomerular Diseases. Diseases Affecting Tubules and Interstitium. Diseases Involving Blood Vessels. Cystic Diseases of the Kidney. Urinary Outflow Obstruction. Neoplasms.

Oral Cavities and Gastrointestinal Tract *Oral Cavity:* Oral Inflammatory and Ulcerated Lesions. Leukoplakia and Erythroplakia. Tumors of the Oral Cavity and the Tongue. Diseases of Salivary Glands. *Esophagus:* Obstructive and Vascular Diseases. Esophageal Varices. Esophagitis. Barrett Esophagus. Esophageal Vascular Disorders of Bowel Tumors. *Stomach:* Gastritis. Peptic Ulcer Disease. Gastric Tumors. *Small and Large Intestines:* Malformations. Vascular Disorders of Bowel. Intestinal Diverticulitis. Intestinal Obstruction. Enterocolitis (Diarrheal Disease). Inflammatory Bowel Disease. Small and Large Intestinal Tumors. *Appendix:* Acute Appendicitis. Tumors of the Appendix.

Liver and Gallbladder. *The Liver:* Mechanisms of Injury. Clinical Syndromes. Infectious and Inflammatory Disorders. Drug- and Toxin-Induced Liver Injury. Inherited Metabolic Liver Diseases. Disorders of Intrahepatic Bile Ducts. Circulatory Disorders. Nodules and Tumors. *Disorders of the Gallbladder and the Extrahepatic Bile Ducts:* Disorders of the Gallbladder and Disorders of the Extrahepatic Bile Ducts. Tumors.

Pancreas. Congenital Anomalies. Pancreatitis. Pancreatic Neoplasms. Pancreatic Carcinoma.

Male Genital System and Lower Urinary Tract. *Penis:* Malformations. Inflammatory Lesions. Neoplasms. *Scrotum, Testis, and Epididymis:* Cryptorchidism and Testicular Atrophy. Inflammatory Lesions. Testicular Neoplasms. *Prostate:*

Prostatitis. Benign Prostatic Hyperplasia. Carcinoma of the Prostate. Sexually Transmitted Diseases

Female Genital System and Breast. *Vulva:* Contact Dermatitis. Nonneoplastic Epithelial Disorders. Tumors. *Vagina:* Vaginitis. Intraepithelial Vaginal Carcinoma and Squamous Cell Carcinoma. Sarcoma Botryoides. *Cervix:* Cervicitis. Neoplasia of the Cervix. *Uterus:* Endometritis. Adenomyosis. Endometriosis. Abnormal Uterine Bleeding. Proliferative Lesions of the Endometrium. Endometrial and Myometrial Tumors. *Fallopian Tubes.* *Ovaries:* Follicle and Luteal Cysts. Polycystic Ovarian Syndrome. Tumors of the Ovary. *Diseases of Pregnancy:* Placental Inflammations and Infections. Ectopic Pregnancy. Gestational Trophoblastic Disease. Preeclampsia/Eclampsia (Toxemia of Pregnancy)

Breast: Fibrocystic changes. Inflammatory Processes. Breast Tumors. *Male Breast:* Gynecomastia. Carcinoma.

Endocrine System. *Pituitary:* Functioning Adenomas and Hyperpituitarism. Hypopituitarism. Posterior Pituitary Syndromes. *Thyroid:* Hyperthyroidism. Hypothyroidism. Thyroiditis. Graves Disease. Diffuse and Multinodular Goiter. Thyroid Neoplasms. *Parathyroid Glands:* Hyperparathyroidism. Hypoparathyroidism. *Endocrine Pancreas:* Diabetes Mellitus. Pancreatic Neuroendocrine Tumors. *Adrenal Cortex:* Adrenocortical Hyperfunction: Hyperadrenalism. Adrenal Insufficiency. Adrenocortical Neoplasms. *Adrenal Medulla:* Pheochromocytoma. Neuroblastoma. Multiple Endocrine Neoplasia (MEN) Syndromes.

Musculoskeletal System. *Bones:* Congenital Bone Disorders. Acquired Bone Disorders. Fractures. Osteonecrosis. Osteomyelitis. Bone Tumors. *Joints:* Arthritis. Tumors and Tumor-like Lesions of the Joints. Pigmented Villonodular Synovitis. Tenosynovial Giant Cell Tumor. *Skeletal Muscle:* Muscular Atrophy. Muscular Dystrophies. Myopathies. Disorders of the Neuromuscular Junction. Tumors of the Skeletal Muscle. *Soft Tissue Tumors:* Adipose Tissue Tumors. Fibrous Tissue Tumors and Tumor-Like Lesions. Fibrohistiocytic Tumors. Smooth Muscle Tumors. Synovial Sarcoma.

Skin. Acute Inflammatory Dermatoses. Chronic Inflammatory Dermatoses Infectious Dermatoses Blistering (Bullous) Disorders Tumors of the Skin.

Neural System. Types of Injury in the Neural System. Edema, Herniation, and Hydrocephalus. Cerebrovascular Diseases. Central Nervous System Trauma. Congenital Malformations and Perinatal Brain Injury. Infections of the Nervous System. Tumors. Primary Diseases of Myelin. Acquired Metabolic and Toxic Disturbances. Neurodegenerative Diseases and Dementia. Disorders of the Peripheral Neural System. Hereditary Cancer Syndromes.

Application of Modern Molecular Techniques in Pathology

144. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Class-room presentations in the amphitheatres and the microscopes' room of the School of Medicine
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USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures are performed with PowerPoint presentations by using a PC and a projector. Laboratory training is performed by slide demonstration through Virtual Microscopy and Panoramic Viewer software. Small Group of students review re-cuts of the same slide under an optical microscope. The educational process is supported by e-class platform.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	56
	Laboratory training that focuses on understanding the theoretical background through discussion of clinical cases and demonstration of specimens and histologic slides	42
	Personal Studying	52
	Total (25 hours per unit)	150
STUDENT ASSESSEMNT	<p>Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of:</p> <ul style="list-style-type: none"> • Multiple choice questions based on a short clinical history with short analysis of the given answer in order to evaluate students' ability to integrate data from the theory • Matching and right/wrong questions in order to evaluate students' knowledge of the theory • Short answer questions in order to evaluate student's understanding of the theory 	

145. RECOMMENDED LITERATURE

3. Greek translation of Robbins Basic Pathology, 9th Edition, by V. Kumar, A. Abbas, J. Aster, Parisianou Publishing, 2016, (original edition 2013)
4. Greek translation of Robbins and Cotran Atlas of Pathology, 3rd Edition by E. Klatt, Parisianou Publishing, 2018 (original edition 2014)

The PowerPoint presentations of the lectures, and the study guides are uploaded at the e-class platform.

Useful sites

- c) <https://library.med.utah.edu/WebPath/webpath.html>
(Webpath the Internet Pathology Laboratory)
- d) <http://www.virtualpathology.leeds.ac.uk/ug/>
(Leeds University Pathology E-learning)
- e) <http://zoomify.lumc.edu/path/genpath/genpath.htm>
- d) <http://zoomify.lumc.edu/path/virtualpath.htm>
- e) <http://www.stitch.luc.edu/lumen/lessons.cfm>
- f) <http://www.pathguy.com/>
(The Pathology Guy - Online Help)
- g) <http://www.meddean.luc.edu/lumen/MedEd/Histo/htm>
- h) <http://www.udel.edu/biology/Wags/histopage/histopage.htm>

TRAINING**Hours**

Teaching: -, Tutorials - Laboratory-based Learning: -, Clinical training: 50.
 The clinical training takes place during the morning working hours of the Pathology Laboratory in the University Hospital for 2 weeks.
 4

ECTS Units**Teachers**

M. Melachrinou, V. Zolota, H. Kourea, V. Tzelepi.

COURSE OUTLINE**146. GENERAL**

SCHOOL	LIFE SCIENCES		
DEPARTMENT	SCHOOL OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED1156	SEMESTER OF STUDIES	12th
COURSE TITLE	ELECTIVE CLINICAL TRAINING IN PATHOLOGY		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Clinical Training		25	4
COURSE TYPE	Scientific Area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBPAGE (URL)	

147. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none"> • <p>The elective clinical training in Pathology aims to familiarize students with the entire spectrum of the practice of Pathology in a tertiary care center, with both classical and modern techniques and methods. Students gain knowledge and experience regarding pathology services, including:</p> <ul style="list-style-type: none"> • Gross examination and processing of biopsy material and resection specimens • Processing of tissues in the laboratory • Use and contribution to diagnosis of ancillary techniques like immunohistochemistry • Process of formulation of the final diagnosis <p>The students study, through clinical problem solving, and comprehend the importance of histopathologic diagnosis as a process that integrates the clinical and laboratory data that are available for each case and results in the final treatment decisions.</p> <p>Lastly, the students are introduced to the practical application of prognostic and predictive biomarkers in the targeted therapeutic approach of malignant neoplasms.</p>
General Abilities
<p>Study, analysis and synthesis of data, with the use of required technologic methods</p> <p>Decision making</p> <p>Autonomous task management</p>

Team working
Generation of novel research ideas

148. COURSE CONTENT

The students observe the everyday routine of the Department of Pathology of the University General Hospital of Patras. In particular, they observe the gross and microscopic evaluation of specimens (biopsy material, surgical specimens) and the clinicopathologic discussions with Clinical Doctors of various specialties and they attend the intradepartmental educational meetings. They have the opportunity to examine cases covering a wide diagnostic spectrum of Pathology dealing with inflammatory and neoplastic diseases of almost all organ systems included in the subject of Systemic Pathology (Pathology II).

149. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Attendance at the Department of Pathology, University General Hospital of Patras	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Solving of pathology clinical cases with the use of internet, histologic slides' demonstration through a light microscope connected through a high definition camera to a high definition screen (live microscopy) and lectures by using PowerPoint	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Clinical training focused on theory comprehension by discussing clinical cases and demonstration of gross specimens and histologic slides	70
	Personal Studying	30
	Total (25 hours per unit)	100
STUDENT ASSESSEMENT	Assessment is undertaken in the Greek Language with oral exams (100%) and is comprised of:	

- | | |
|--|--|
| | <ul style="list-style-type: none">• Short answer questions based on a short clinical case in order to evaluate student's understanding of the theory |
|--|--|

150. RECOMMENDED LITERATURE

5. Greek translation of Robbins Basic Pathology, 9th Edition, by V. Kumar, A. Abbas, J. Aster, Parisianou Publishing, 2016, (original edition 2013)
6. Greek translation of Robbins and Cotran Atlas of Pathology, 3rd Edition by E. Klatt, Parisianou Publishing, 2018 (original edition 2014)

Useful sites

- e) <https://library.med.utah.edu/WebPath/webpath.html>
(Webpath the Internet Pathology Laboratory)
- f) <http://www.virtualpathology.leeds.ac.uk/ug/>
(Leeds University Pathology E-learning)
- c) <http://zoomify.lumc.edu/path/genpath/genpath.htm>
- d) <http://zoomify.lumc.edu/path/virtualpath.htm>
- e) <http://www.stitch.luc.edu/lumen/lessons.cfm>
- f) <http://www.pathguy.com/>
(The Pathology Guy - Online Help)
- g) <http://www.meddean.luc.edu/lumen/MedEd/Histo/htm>
- h) <http://www.udel.edu/biology/Wags/histopage/histopage.htm>

DEPARTMENT OF HYGIENE

Address Preclinical research Building – University of Patras campus (Rion)
Tel. 2610-997889, Fax: 2610-996101

LABORATORY STAFF

Director Professor Michael Leotsidis

Professors -Eleni Gelastopulu, Apostolos Vantarakis

Associate professors -Eleni Gelastopulu, Apostolos Vantarakis

Assistant professors -

Lecturers -

**Supporting research
and Technical Staff** Ioannis Detorakis
Zoe Lykourgioti

***Part of Integration II and the course «Introduction in Clinical Medicine» in the 1st year**

PUBLIC HEALTH2nd Year, 4th Semester (mandatory).**Hours**

Teaching: 28, Laboratories and Tutorial: 28, Clinical training: -.

ECTS Units

4

Teachers

M. Leotsidis, E. Jelastopulu, A. Vantarakis.

Laboratories

M. Leotsidis, E. Jelastopulu, A. Vantarakis

Description**COURSE OUTLINE****151. GENERAL**

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_421	SEMESTER OF STUDIES	FOURTH
COURSE TITLE	HYGIENE		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDIT
Lectures, seminars and laboratory work		2 (lect.) 2 (lab.)	4
COURSE TYPE	Field of Science and Skills Development		
PREREQUISITE COURSES:	Typically, there are not prerequisite course. Essentially, the students should possess:		

	(a) knowledge provided through the previously taught Statistics
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED820/

152. LEARNING OUTCOMES

Learning outcomes
<p>The course is the basic introductory lesson in the concepts of Hygiene and Epidemiology.</p> <p>The subject matter of the course is to introduce students to the basic concepts of Hygiene and Epidemic concept of Hygiene with the provocation of diseases and epidemics and to understand the various different types of epidemics and the requirements for their effective management.</p> <p>It also refers to introductory concepts in epidemiological investigation methodologies and their role that the student has a comprehensive understanding of processes and methodologies in Public Health lesson is the basis on which specific epidemiological management methodologies and techniques, as Study, are developed in individual specific courses of direction.</p> <p>Finally, the aim of the course is to understand from the students the importance of Epidemiology in modern medicine and the evolution of medicine in Preventive Medicine which can be a distinctive occupation</p> <p>The lesson includes the following sections:</p> <p>Introduction to the concepts of Public Health, Prevention and Health Promotion. Environmental hygiene environmental toxicology. Hygiene of water. Food hygiene. Pollution of the atmosphere. Climate Demographic Medicine (demographic collection, mortality, birth rate, population structure Epidemiology (descriptive Epidemiology, morbidity measurement, general epidemiology of epidemiological standards, analytical epidemiology, types of epidemiological studies, mole</p>

epidemiology). Nutrition of man and basic principles of dietetics. Food and health. Epidemiology of infectious diseases. Types of epidemics. Epidemiology of chronic diseases. Special Epidemiology of Heart Diseases and Neoplasms. Modern lifestyle and health. Major risk factors for chronic diseases (smoking, obesity, other factors). Epidemiology and accident prevention. Basic Laboratory of Labor Medicine. Introduction to Health Systems and Health Policies. Sensitive Social Groups and Public Health

Upon successful completion of the course the student will be able to:

- Has comprehended the basic and critical features of Hygiene and Epidemiology, linking them to more general medical objectives and maintaining health
- Is aware of the tools and techniques of epidemiological investigation and how these are used to ensure the successful management of epidemics in time and within the budget
- Can distinguish key roles in a real or case study of an epidemic and assess the role of stakeholders in the investigation.
- It uses the risk assessment methodologies to identify key elements such as critical risk factors, correlation, and a realistic timetable.
- Analyzes and calculates the basic elements of Hygiene and their connection to disease provocation.

General Abilities

- Autonomous Work
- Teamwork
- Identification of risk factors
- Epidemic Planning and Management

153. COURSE CONTENT

1. Epidemiology: Introduction to Epidemiology (descriptive Epidemiology, morbidity measures, epidemiology of infectious diseases, epidemiological standards, analytical epidemiology, epidemiological studies, molecular and genetic epidemiology). Epidemiology of infectious diseases, epidemics. Epidemiology of chronic diseases. Special Epidemiology. Clinical epidemiology. Epidemiology

2. Environmental Health: Introduction to Environmental Toxicology. Hygiene of water. Food hygiene. Pollution of the atmosphere. Climate. Nutrition of man and basic principles of dietetics. Food and health. Modern lifestyle and health. Major risk factors for chronic diseases (smoking, obesity, other factors). Basic Laboratory of Labor Medicine.
3. Demography: Elements of Medical Demography (demographic collection, mortality, birth rate, population structure).

154. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures, seminars and laboratory work face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) in teaching. The lectures content of the course for each chapter is available on the internet, in the form of a series of ppt files, where from the student can freely download them using a password which is provided to the student at the beginning of the course.	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας
	Lectures (2 conduct hours per week x 13 weeks)	
	Laboratory work (2 conduct hours per week x 13 weeks)	
	Final examination (3 conduct hours for Synthetic Organic Chemistry)	
	Hours for private study of the student and preparation of home-works (3 per semester),	
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	120 hours
STUDENT ASSESSEMENT	1. Written examination after the end of the semester and the student participated in the preparation of home-works.	

	<p>semester. In that case, the 20% of the mean mark of the home-works is added to the final examination mark.</p> <p>Minimum passing grade: 5.</p>
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155. RECOMMENDED LITERATURE

15.5.	Hygiene: M. Vayona, 2009, University Studio Press
16.6.	Epidemiology, Gordis, Translation A.Vantarakis, 2017
17.7.	Lecturers Notes. A. Vandarakis, E. JGelrastopoulou, M. Leotsinidis

NUTRITION AND HEALTH

4th Year, 8th Semester (elective).

Hours

Teaching: 25, Laboratories: -, Tutorial: -, Clinical training: -.

ECTS Units

5

Teachers

M. Leotsidis, A. Vantarakis

Description

COURSE OUTLINE

COURSE OUTLINE

156. GENERAL

SCHOOL	HEALTH SCIENCES
SEPARTMENT	MEDICINE
LEVEL OF COURSE	UNDERGRADUATE

COURSE CODE	MED_594	SEMESTER OF STUDIES	FIFTH
COURSE TITLE	EPIDEMIOLOGY OF INFECTIOUS DISEASES		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures, seminars and laboratory work	2 (lect.)	2
COURSE TYPE	Field of Science and Skills Development		
PREREQUISITE COURSES:	Typically, there are not prerequisite course. Essentially, the students should possess: (a) knowledge provided through the previously taught Statistics		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED825/		

157. LEARNING OUTCOMES

Learning outcomes
The Epidemiology of Infectious Diseases is concerned with the study of the factors that affect the distribution and dynamics of infectious diseases and their impact on Public Health. The investigation of the effects of these factors is carried out using tools from Molecular Biology, Human Genetics, Epidemiology, Population Genetics and Biostatistics. A large number of infectious diseases occur in humans due to either predisposition or interactions between humans and

the environment, giving the clinician and the epidemiologist the opportunity to contribute significantly to the investigation of these diseases. Examples of such diseases and epidemics will be analyzed in the lesson.

The subject matter of the course is to introduce students to the basic concepts of Epidemiology of infectious diseases, to link the concept of Hygiene with the provocation of diseases and epidemics and to understand the overall picture of the different types of epidemics and the requirements for their effective management.

It also refers to introductory concepts in epidemiological investigation methodologies and their role in Public Health so that the student has a comprehensive understanding of processes and methodologies in Public Health. In this sense, the lesson is the basis on which specific epidemiological management methodologies and techniques, as well as the Hygiene Study, are developed in individual specific courses of direction.

Finally, the aim of the course is to understand from the students the importance of Epidemiology of infectious diseases in modern medicine and the evolution of medicine in Preventive Medicine which can be a distinct scientific field / occupation

General Abilities

- Autonomous Work
- Teamwork
- Identification of risk factors
- Epidemic Planning and Management

158. COURSE CONTENT

1. Epidemiology: Introduction to Epidemiology (descriptive Epidemiology, morbidity measurement, general epidemiology of infectious diseases, epidemiological standards, analytical epidemiology, types of epidemiological studies, molecular and genetic epidemiology). Epidemiology of infectious diseases. Types of epidemics. Epidemiology of chronic diseases. Special Epidemiology. Clinical epidemiology. Environmental Epidemiology
2. Environmental Health: Introduction to Environmental Toxicology. Hygiene of water. Food hygiene. Pollution of the atmosphere. Climate. Nutrition of man and basic principles of dietetics. Food and health.

Modern lifestyle and health. Major risk factors for chronic diseases (smoking, obesity, other factors). Basic Laboratory of Labor Medicine.

3. Demography: Elements of Medical Demography (demographic collection, mortality, birth rate, population structure).

159. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Lectures, seminars and laboratory work face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	Lectures (2 conduct hours per week x 13 weeks)	13
	Final examination (3 conduct hors for Synthetic Organic Chemistry)	3
	Hours for private study of the student and preparation of home-works (3 per semester),	37
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	50 hours (total student work-load)
STUDENT ASSESSEMNT	<p>2. Written examination after the end of the semester - final grade, unless the student participated in the preparation of home-works during the semester. In that case, the 20% of the mean mark of the home-works is added to the final examination mark.</p> <p>Minimum passing grade: 5.</p>	

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160. RECOMMENDED LITERATURE

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| 11. Epidemiology, Gordis, Translation A.Vantarakis, 2017 |
| 12. Notes of lecturers in Greek |

156.161. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_874	SEMESTER OF STUDIES	8thEighth
COURSE TITLE	PUBLIC HEALTH NUTRITION		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	2	4	
COURSE TYPE	Field of Science and Skills Development		
PREREQUISITE COURSES:	Typically, there are not prerequisite course.		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED861/		

157.162. LEARNING OUTCOMES

Leraning outcomes

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Public Health nutrition is a specialized discipline in the field of nutrition. Public Health nutrition is targeting the population as a whole or specific subpopulations. The course is structured to begin with an overview taking students through a cycle of procedures, which should be the basis of any program of public health nutrition.

The second part, outline the major public health nutrition problem arising from overnutrition and undernutrition. The lessons deal also with issues of maternal and child health and some major diseases: (cancer diabetes, heart diseases and osteoporosis).

Upon successful completion of the course the student will be able to:

1. to identify nutrition-related public health problems relevant at the local, regional, national and international levels
2. to identify causes of these problems
3. to evaluate the impact of these strategies
4. to understand the process by which research-based evidence provides a basis for the development of public health policy
5. ultimately, to improve nutrition-related health by applying evidence to action to solve problems.

General Abilities

- Autonomous Work
- Teamwork

158.163. COURSE CONTENT

Assessment of Nutritional Status in Individuals

Assessment of Physical Activity

Public Health Nutrition Strategies for Intervention at

Dietary Guidelines

Food Choice

Iron deficiency Anemias

Fear of Fatness and Fad Slimming Diets

Nutrition and Child Development

Infant Feeding

The Role of Folate

Maternal Nutrition Fetal Programming and Adult

Cardiovascular Disease

Diabetes Mellitus

Public Health Aspects of Overnutrition

Public Health Aspects of Undernutrition

Vitamin A Deficiency

<p>Iodine and Iodine deficiency Disorders</p> <p>Cancer and Diet</p> <p>Osteoporosis and Hip Fracture</p>

159.164. TEACHING AND LEARNING METHODS - ASSESSMENT

<p>TEACHING METHOD <i>Πρόσωπο με πρόσωπο, Εξ αποστάσεως εκπαίδευση κ.λπ.</i></p>	Lectures and seminars	
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Χρήση Τ.Π.Ε. στη Διδασκαλία, στην Εργαστηριακή Εκπαίδευση, στην Επικοινωνία με τους φοιτητές</i></p>	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course.	
<p>TEACHING ORGANIZATION</p>	<p>Teaching Method</p>	<p>Semester Workload</p>
	Lectures (2 conduct hours per week x 13 weeks)	26
	Final examination (3 conduct hrs)	3
	Hours for private study of the student and preparation of home-works (3 per semester),	71

	Total number of hours for the Course (25 hours of work-load per ECTS credit)	120 hours (total student work-load)
STUDENT ASSESSMENT	<p>2.3. Written examination after the end of the semester - final grade, unless the student participated in the preparation of home-works during the semester. In that case, the 20% of the mean mark of the home-works is added to the final examination mark.</p> <p>Minimum passing grade: 5.</p>	

160.165. RECOMMENDED LITERATURE

Public Health Nutrition: Michael J. Gibney, Barrie M. Margetts, John M. Kearney, Lenore Arab, 2013 John Wiley & Sons.

DEPARTMENT OF NUCLEAR MEDICINE

Address University Hospital of Parts, 2nd floor
Tel. 2610-999211, Fax: 2610-999212.

LABORATORY STAFF

Director Paulos Vasilakos Dimitrios Apostolopoulos

Professors

Associate Professors Dimitrios Apostolopoulos

Assistant Professors -

Lecturers -

INTRODUCTION TO NUCLEAR MEDICINE 4th Year, 8th Semester (optional).

Hours Teaching: -, Laboratories: 2, Tutorial: 8 (5 students groups), Clinical training: - (per week).

ECTS Units 5

Teachers P.Vasilakos, D. Apostolopoulos.

Description

COURSE OUTLINE

161.166. GENERAL

SCHOOL	LIFE SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_875	SEMESTER OF STUDIES	8th (OPTIONAL COURSE)
COURSE TITLE	INTRODUCTION TO NUCLEAR MEDICINE		

INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Clinical Training		25	5
COURSE TYPE	Scientific Area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)			

162.167. LEARNING OUTCOMES

<p>Learning outcomes</p> <ul style="list-style-type: none"> •
<p>The aim of “Introduction to Nuclear Medicine” is to familiarize students with the entire spectrum applications. At the end of the course the student should be able to discriminate the principles Nuclear Medicine from those of other imaging modalities. Most importantly, the students should be about the main diagnostic and therapeutic applications of Nuclear Medicine.</p>
<p>General Abilities</p>
<ul style="list-style-type: none"> - Study, analysis and synthesis of data, with the use of required technologic methods - Decision making

- Autonomous task management
- Team working
- Generation of novel research ideas

163.168. COURSE CONTENT

Part A. Nuclear Physics, Radiopharmaceuticals, Imaging systems, types of Nuclear Medicine studies (p SPECT/CT, PET/CT, PET/MRI)

Part B. Main applications of Classical Nuclear Medicine

Part C. PET/CT and PET/MR. Clinical Applications

Part D. Therapeutic Applications of Nuclear Medicine - “Theranostics”

164.169. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Attendance at the Department of Nuclear Medicine, University Hospital of Patras	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<ul style="list-style-type: none"> - Lectures by the use of “PowerPoint” . - Demonstration of various devices and Imaging Systems of tl (SPECT/CT and PET/CT systems, dose calibrator, survey meter generator, etc). - Use of the Web. 	
TEACHING ORGANIZATION	Activity	Semi
(Lectures	
	Explanation of the function of devices and	

	Imaging Systems of the Laboratory	
	Presentation of illustrative cases from the daily routine. Making the diagnosis and differential diagnosis.	80
	Total Hours	100
STUDENT ASSESSMENT	Assessment is undertaken by oral exams in the Greek language.	

165.170. RECOMMENDED LITERATURE

Recommended books:

- Notes (in the form of a book): Introduction to Nuclear Medicine. P. Vassilakos, D. Apostolopoulos. University of Patras Press.
- Clinical Nuclear Medicine in 20 Specialties. Ph. Grammatikos and col. Kyriakides A.E. Editions. ISBN 978-960-467-481-7. Athens 2014.
- Clinical and Translational Imaging. Reviews in Nuclear Medicine and Molecular Imaging. Editor-in-Chief: Giovanni Lucignani. ISSN: 2281-5872 (print version), ISSN: 2281-7565 (electronic version). Journal no. 40336.

Recommended Journals:

- Hellenic Journal of Nuclear Medicine
- European Journal of Nuclear Medicine and Molecular Imaging
- Journal of Nuclear Medicine

**CLINICAL APPLICATIONS
OF NUCLEAR MEDICINE** Lectures as part of the curriculum of other specialties (paediatrics, orthopaedics, internal medicine, endocrinology, etc.) to students and interns for the applications of Nuclear Medicine in daily diagnostic practice.

DIVISION OF INTERNAL MEDICINE I

DEPARTMENT OF INTERNAL MEDICINE

Address

University Hospital of Patras, 5th floor
Tel. 2610-999582, 2610-999583, Fax: 2610-993982.

LABORATORY STAFF

Director

Professor Charalampos Gogos

Professors

Dimitrios Goumenos, Charalampos Gogos, Charalampos Kalofonos, Stamatios-Nikolaos Liosis, Venetsana Kyriazopoulou, Markos Maragos, Konstantinos Markou, Alexandros Spiridonidis, Konstantinos Spiropoulos, Ioannis Starakis, Anargyros Simeonidis, Konstantinos Thomopoulos Ioannis Habeos, Athanasia Mouzaki, Georgios Chachalis, Periklis Davlouros

Associate Professors

Marina Karakatza, John Cheiladakis, Thomas Makatsoris, Aggelos Koutras,.

Assistant Professors

Elena Solomou-Liosi, Dimitrios Daousis, Kiriakos Karkoulias, Carolina Akinosoglou, Stilianos Assimakopoulos, George Panos

Lecturers

-

Supporting research and

Technical Staff

Ioanna Rougala, Polixeni Papapostolou, Chrisoula Bpgdanopoulou

Teacher 407/80

-

Administrative Staff

Maria Krigou, Anastasios Georgakopoulos

* **Part of Integration I and II and part of the course «Bioethics» in the 3rd year**

**INTRODUCTION TO
CLINICAL MEDICINE**

Hours

ECTS Units

Teachers

1st Year, 1st Semester (mandatory).

Teaching: 2, Laboratories: -, Tutorial: -, Clinical training: - (per week).

4

C. Gogos, X. Lampropoulou–Karatza, S. Liosis, M. Anthrakopoulos, N. Georgopoulos, A. Symeonidis, E. Gelastopoulou, M. Maragos, X. Kalofonos,

*Educational objectives
and content*

COURSE OUTLINE

166.171. GENERAL

SCHOOL	School of Medicine		
DEPARTMENT	Internal Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_161	SEMESTER OF STUDIES	1stA
COURSE TITLE	Introduction in Clinical Medicine		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
LECTURES	2	4	
COURSE TYPE	Field of Health Sciences		
PREREQUISITE COURSES:	None		

TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (in English)
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=6

167.172. LEARNING OUTCOMES

Leraning outcomes <ul style="list-style-type: none"> •
<p>The course "Introduction to Clinical Medicine" is the first lesson to introduce the student to issues related to Clinical Medicine and aims its original familiarization and understanding of matters of general interest in relation to the clinical practice of medicine. The courses are conducted by clinicians from the auditorium and they refer to the organization of medical education, problems in the practice of clinical medicine and the principles underlying it, the modern version of the Hippocratic Oath, the differences between the treatment of patients with acute or chronic diseases, the differences that characterize the woman-patient and the male patient. The course also refers to modern health systems and health system in Greece, the importance of prevention in medicine, the issue, indications and problems of blood transfusions and organ transplantation, how to tackle the terminally ill and, finally, the ethical principles that govern contemporary clinical practice. The parallel the course addresses the importance of self-initiated, life-long learning that results in evidence based medical practice, combining best available evidence with clinical expertise and individual patients' needs.</p> <p>Following successful completion of this course the student is expected to</p>

- Have understood core points in medical history and physical examination
- Be able to review findings and comprehend the concept of differential diagnosis
- Understand specific needs and required skills in diagnosis and management of oncologic, psychiatric, gynaecologic and paediatric patients
- Distinguish between acute and chronically ill patients
- Understand the principles underlying blood transfusion and transplantation medicine
- Be able to critically appraise and make use of scientific literature search engines and databases
- Be aware of bioethics principles ruling basic science research, clinical trials and every day clinical practice
- Be familiar with contemporary health systems and delivery of health care

General Abilities

Searching, analysis and synthesis of facts and information, as well as using the necessary technologies

Adaptation to new situations

Decision making

Autonomous (Independent) work

Exercise of criticism and self-criticism

Promotion of free, creative and inductive thinking

Respect to multiculturalism and diversity

Exhibiting of social, professional and ethical responsibility and sensitivity to minorities and gender issues

168.173. COURSE CONTENT

The course includes:

- Introduction.
- Principles of exercise of Medical Science / Physician characteristics.
- Principles of medical history / physical examination.
- Characteristics of patients with acute disease.
- Characteristics of patients with chronic disease.
- Characteristics of the pediatric patient.
- Features of female - patient.
- Health system.
- Preventative Medicine.
- Principles of transfusion and transplantation.
- Oncologic and terminally ill patient.

- Principles of ethics – ethics.
- Evidence Based Medicine – Critical Appraisal

169.174. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήν</i>
	Lectures	28
STUDENT ASSESSEMNT	Written Examination at the End of Semester in Greek with multiple cl or open-type questions	

170.175. RECOMMENDED LITERATURE

- Bickley, L. S., Szilagy, P. G., & Bates, B. (2007). *Bates' guide to physical examination and history*

taking. Philadelphia: Lippincott Williams & Wilkins.

- Macleod, J., Munro, J. F., Edwards, C. R. W., & University of Edinburgh. (1990). *Macleod's clinical examination*. Edinburgh: Churchill Livingstone.
- E learning material / student notes as uploaded in e-class

**INTRODUCTION TO
CLINICAL SKILLS- FIRST
AID**

1st Year, 2nd Semester (mandatory)

**Hours
Teachers**

Teaching: 2, Laboratories: -, Tutorial: -, Clinical training: - (per week).

All the faculty members of the Internal Medicine Department and :

M. Anthrakopoulos, D. Koukouras, K. Panagopoulos, G. Skroubis, P. Gourzis, V. Greka–Spilioti, A. Varvarigou, D. Xrisis, A. Katrivanou.

ECTS Units

2

COURSE OUTLINE

171.176. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_261	SEMESTER OF STUDIES	2 nd
COURSE TITLE	INTRODUCTION TO CLINICAL SKILLS- FIRST AID		

INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		2	2
COURSE TYPE	Background, Skills development		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)			

172.177. LEARNING OUTCOMES

Leraning outcomes

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The aim of this training module, lasting four semesters, from the 2nd to the 5th semester, is to understand the concept of patient-centered medical care, development of knowledge, skills and attitudes for effective communication with patient, physical examination, humanitarian and ethical treatment of patient, problem solving, simple medical procedures and first aid. More specifically, the educational objectives are:

1. Acquisition of knowledge – comfort in the professional approach of the patient. Technique of obtaining medical history / physical examination.
2. Recording / Oral presentation of medical history
3. Pediatric / Psychiatric medical history.
4. Understanding the basic core of the commonly used laboratory and other paraclinical tests used in routine clinical practice.
5. Read / evaluation of medical records – medical history / medical records.
6. Knowledge / routine medical operations execution.
7. Medical emergency / first aid.
8. Understanding of social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine.

Understanding the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.

MEDICAL HISTORY OBTAINING – PHYSICAL EXAMINATION

At the end of this training module the student should:

- Be able to recognize the essential information needed for recording and be able to obtain them from the patients in the form of questions.
- Be able to evaluate the elements of the medical history that are not normal and put them in a hierarchy.

- Be able to record an organized medical history of a patient based on a proposed model.
- Be able to record a hierarchical list of problems based on the medical history.
- Be able to understand the differences between the written and verbal / analytical and brief presentation of a medical history.
- Be able to understand and be practiced in accessing sensitive issues related to the patient's history (medical history of sex, drug use etc.) and to exam patients with peculiarities.
- Be able to practice communication techniques / behaviors in relation to medical history taking, presentation of the medical history, informing the environment, confidentiality etc.
- Become familiar with taking a pediatric medical history understanding its peculiarities in relation to the medical history of an adult.
- Acquire the skills necessary for taking the medical history from a psychiatric patient.
- Be able to fully examine the patient systemically.
- Record the pathological findings during the examination of the patient and be able to evaluate the differences from normal.
- Understand the meaning and the importance of the presence of the medical history and medical record (access history, studies, and legal problems).
- And finally, be able to provide first aid in emergency medical situations (Cardiopulmonary resuscitation).

General Abilities

<ul style="list-style-type: none"> • Autonomous work • Search, analyze, and synthesize data and information

173.178. COURSE CONTENT

<p>Medical history content</p> <ul style="list-style-type: none"> • Types of medical history • Reason for hospital admission - Current disease • Past medical history • Family medical history • Social history • Medical systems review • Age specificities • Getting a child medical history • Receiving a psychiatric history • Emergency Medicine • Cardiopulmonary resuscitation • Repeat and writing a medical history

174.179. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	

TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	Lectures	14
	Clinical training	8
	Studying	22
STUDENT ASSESSEMNT	Writing examination	

175.180. RECOMMENDED LITERATURE

Bates' Guide to Physical Examination and History-Taking.

CLINICAL ABILITIES / 2nd Year, 3rd Semester (mandatory)

Hours Teaching: 2, Laboratories: -, Tutorial: -, Clinical training: - (per week).

ECTS Units 3

Teachers All the faculty members of the Internal Medicine Department.

COURSE OUTLINE

176.181. GENERAL

SCHOOL	HEALTH SCIENCES
DEPARTMENT	MEDICINE
LEVEL OF COURSE	UNDERGRADUATE

COURSE CODE	MED_351	SEMESTER OF STUDIES	3rd
COURSE TITLE	CLINICAL SKILLS I		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
TEACHING AND CLINICAL TRAINING	2	3	
COURSE TYPE	SKILLS DEVELOPMENT		
PREREQUISITE COURSES:	1. INTRODUCTION TO CLINICAL SKILLS – FIRST AID		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?ID=19		

177.182. LEARNING OUTCOMES

Lerning outcomes

-

The aim of this training module is to understand the concept of patient-centered medical care, develop of knowledge, skills and attitudes for effective communication with the patient, physical examina humanitarian and ethical treatment of patient, problem solving, simple medical procedures and first

More specifically, the educational objectives are:

1. Acquisition of knowledge – comfort in the professional approach of the patient. Technique of obtaining medical history / physical examination.
2. Recording / Oral presentation of medical history
3. Pediatric / Psychiatric medical history.
4. Understanding the basic core of the commonly used laboratory and other paraclinical tests used in routine clinical practice.
5. Basic differential diagnosis
6. Read / evaluation of medical records – medical history / medical records.
7. Knowledge / routine medical operations execution.
8. Medical emergency / first aid.
9. Understanding of social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine.
10. Understanding the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.

MEDICAL HISTORY OBTAINING – PHYSICAL EXAMINATION

At the end of this training module the student should:

- Be able to recognize the essential information needed for recording and be able to obtain them from the patients in the form of questions.
- Be able to evaluate the elements of the medical history that are not normal and put them in a hierarchy.
- Be able to record an organized medical history of a patient based on a proposed model.
- Be able to record a hierarchical list of problems based on the medical history.
- Be able to understand the differences between the written and verbal / analytical and brief presentation of a medical history.
- Be able to understand and be practiced in accessing sensitive issues related to the patient's history (medical history of sex, drug use etc.) and to exam patients with peculiarities.
- Be able to practice communication techniques / behaviors in relation to medical history taking, presentation of the medical history, informing the environment, confidentiality etc.
- Become familiar with taking a pediatric medical history understanding its peculiarities in relation to the medical history of an adult.
- Acquire the skills necessary for taking the medical history from a psychiatric patient.
- Be able to fully examine the patient systemically.
- Record the pathological findings during the examination of the patient and be able to evaluate the

differences from normal.

- Understand the meaning and the importance of the presence of the medical history and medical record (access history, studies, and legal problems).
- And finally, be able to provide first aid in emergency medical situations (Cardiopulmonary resuscitation).

General Abilities

- *Searching, analysis and synthesis of facts and information, as well as using the necessary technologies*
- *Autonomous (Independent) work*
- *Group work*
- *Decision making*
- *Respect to individuality and multiculturalism*
- *Social, occupational and ethical responsibility and sensibility to sex issues*
- *Promotion of free, creative and inductive thinking*

The aim of this training module, is to understand the concept of patient-centered medical care, development of knowledge, skills and attitudes for effective communication with the patient, physical examination, humanitarian and ethical treatment of patient, problem solving, simple medical procedures and first aid. Also, this lesson aims at understanding the social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine and makes clear the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.

179.184. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face Lectures and clinical exercise (in teams of 8-10 students)	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Autonomous or group exercises of patient based differential diagnosis search in internet medical databases (PubMed)	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	lectures	20
	Clinical exercise (history and clinical examination)	35
	Independent study	25
	<i>Sum</i>	<i>80</i>
STUDENT ASSESSEMNT	Written or oral test (teacher's decision) including: patient-b	

	history acquisition, clinical examination, clinico-laboratory data evaluation, differential diagnosis, treatment plan and decisions. Knowledge of clinical signs associated with diverse clinical entities.
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180.185. RECOMMENDED LITERATURE

Barbara Bates: Guide to physical examination and history
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CLINICAL ABILITIES II 2nd Year, 4th Semester (mandatory).

Hours

Teaching: 2, Laboratories: -, Tutorial: -, Clinical training: - (per week).

ECTS Units 2

Teachers All the faculty members of the Internal Medicine Department.

COURSE OUTLINE

181.186. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_461	SEMESTER OF STUDIES	4th
COURSE TITLE	CLINICAL SKILLS II		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	

TEACHING AND CLINICAL TRAINING		2	2
COURSE TYPE	SKILLS DEVELOPMENT		
PREREQUISITE COURSES:	2. INTRODUCTION TO CLINICAL SKILLS – FIRST AID 3. CLINICAL SKILLS I		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?ID=21		

182.187. LEARNING OUTCOMES

Learning outcomes

-

The aim of this training module is to understand the concept of patient-centered medical care, develop knowledge, skills and attitudes for effective communication with the patient, physical examination, humanitarian and ethical treatment of patient, problem solving, simple medical procedures and first aid. More specifically, the educational objectives are:

11. Acquisition of knowledge – comfort in the professional approach of the patient. Techniques

obtaining medical history / physical examination.

12. Recording / Oral presentation of medical history

13. Pediatric / Psychiatric medical history.

14. Understanding the basic core of the commonly used laboratory and other paraclinical tests used in routine clinical practice.

15. Basic differential diagnosis

16. Read / evaluation of medical records – medical history / medical records.

17. Knowledge / routine medical operations execution.

18. Medical emergency / first aid.

19. Understanding of social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine.

20. Understanding the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.

MEDICAL HISTORY OBTAINING – PHYSICAL EXAMINATION

At the end of this training module the student should:

- Be able to recognize the essential information needed for recording and be able to obtain them from the patients in the form of questions.

- Be able to evaluate the elements of the medical history that are not normal and put them in a hierarchy.
- Be able to record an organized medical history of a patient based on a proposed model.
- Be able to record a hierarchical list of problems based on the medical history.
- Be able to understand the differences between the written and verbal / analytical and brief presentation of a medical history.
- Be able to understand and be practiced in accessing sensitive issues related to the patient's history (medical history of sex, drug use etc.) and to exam patients with peculiarities.
- Be able to practice communication techniques / behaviors in relation to medical history taking, presentation of the medical history, informing the environment, confidentiality etc.
- Become familiar with taking a pediatric medical history understanding its peculiarities in relation to the medical history of an adult.
- Acquire the skills necessary for taking the medical history from a psychiatric patient.
- Be able to fully examine the patient systemically.
- Record the pathological findings during the examination of the patient and be able to evaluate the differences from normal.
- Understand the meaning and the importance of the presence of the medical history and medical record (access history, studies, and legal problems).

- And finally, be able to provide first aid in emergency medical situations (Cardiopulmonary resuscitation).

General Abilities

- *Searching, analysis and synthesis of facts and information, as well as using the necessary technologies*
- *Autonomous (Independent) work*
- *Group work*
- *Decision making*
- *Respect to individuality and multiculturalism*
- *Social, occupational and ethical responsibility and sensibility to sex issues*
- *Promotion of free, creative and inductive thinking*

183.188. COURSE CONTENT

The aim of this training module, is to understand the concept of patient-centered medical care, development of knowledge, skills and attitudes for effective communication with the patient, physical examination, humanitarian and ethical treatment of patient, problem solving, simple medical procedures and first aid. Also, this lesson aims at understanding the social-economic issues related to

health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine and makes clear the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.

184.189. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face Lectures and clinical exercise (in teams of 8-10 students).	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Autonomous or group exercises of patient based differential diagnosis search in internet medical databases (PubMed)	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	lectures	10
	Clinical exercise (history and clinical examination)	30
	Independent study	20
	Sum	60
STUDENT ASSESSEMNT ;	Written or oral test (teacher’s decision) including: patient-based history acquisition, clinical examination, clinico-laboratory data evaluation, differential diagnosis, treatment plan and decisions. Knowledge of clinical signs <i>associated with</i>	

	diverse clinical entities.
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185.190. RECOMMENDED LITERATURE

Barbara Bates: Guide to physical examination and history
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CLINICAL ABILITIES III 3rd Year, 5th Semester (mandatory).

Hours Teaching: 2, Laboratories: -, Tutorial: -, Clinical training: - (per week).

ECTS Units 2

Teachers All the faculty members of the Internal Medicine Department.

COURSE OUTLINE

186.191. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_551	SEMESTER OF STUDIES	5th
COURSE TITLE	CLINICAL SKILLS III		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS	ECTS CREDITS

	PER WEEK	
TEACHING AND CLINICAL TRAINING	2	2
COURSE TYPE	SKILLS DEVELOPMENT	
PREREQUISITE COURSES:	4. INTRODUCTION TO CLINICAL SKILLS – FIRST AID 5. CLINICAL SKILLS I 6. CLINICAL SKILLS II	
TEACHING AND ASSESSMENT LANGUAGE:	GREEK	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES	
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?ID=28	

187.192. LEARNING OUTCOMES

Lerning outcomes
•
The aim of this training module is to understand the concept of patient-centered medical care, development of knowledge, skills and attitudes for effective communication with the patient, physical examination, humanitarian and ethical treatment of patient, problem solving, simple

medical procedures and first aid. More specifically, the educational objectives are:

21. Acquisition of knowledge – comfort in the professional approach of the patient. Technique of obtaining medical history / physical examination.
22. Recording / Oral presentation of medical history
23. Pediatric / Psychiatric medical history.
24. Understanding the basic core of the commonly used laboratory and other paraclinical tests used in routine clinical practice.
25. Basic differential diagnosis
26. Read / evaluation of medical records – medical history / medical records.
27. Knowledge / routine medical operations execution.
28. Medical emergency / first aid.
29. Understanding of social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine.
30. Understanding the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.

MEDICAL HISTORY OBTAINING – PHYSICAL EXAMINATION

At the end of this training module the student should:

- Be able to recognize the essential information needed for recording and be able to obtain them from the patients in the form of questions.
- Be able to evaluate the elements of the medical history that are not normal and put them in a hierarchy.
- Be able to record an organized medical history of a patient based on a proposed model.
- Be able to record a hierarchical list of problems based on the medical history.
- Be able to understand the differences between the written and verbal / analytical and brief presentation of a medical history.
- Be able to understand and be practiced in accessing sensitive issues related to the patient's history (medical history of sex, drug use etc.) and to exam patients with peculiarities.
- Be able to practice communication techniques / behaviors in relation to medical history taking, presentation of the medical history, informing the environment, confidentiality etc.
- Become familiar with taking a pediatric medical history understanding its peculiarities in relation to the medical history of an adult.
- Acquire the skills necessary for taking the medical history from a psychiatric patient.
- Be able to fully examine the patient systemically.
- Record the pathological findings during the examination of the patient and be able to evaluate

the differences from normal.

- Understand the meaning and the importance of the presence of the medical history and medical record (access history, studies, and legal problems).
- And finally, be able to provide first aid in emergency medical situations (Cardiopulmonary resuscitation).

General Abilities

- *Searching, analysis and synthesis of facts and information, as well as using the necessary technologies*
- *Autonomous (Independent) work*
- *Group work*
- *Decision making*
- *Respect to individuality and multiculturalism*
- *Social, occupational and ethical responsibility and sensibility to sex issues*
- *Promotion of free, creative and inductive thinking*

188.193. COURSE CONTENT

The aim of this training module, is to understand the concept of patient-centered medical care, development of knowledge, skills and attitudes for effective communication with the patient, physical examination, humanitarian and ethical treatment of patient, problem solving, simple medical procedures and first aid. Also, this lesson aims at understanding the social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine and makes clear the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.

189.194. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face Lectures and clinical exercise (in teams of 8-10 students).
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Autonomous or group exercises of patient based differential diagnosis search in internet medical databases (PubMed)

TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	lectures	10
	Clinical exercise (history and clinical examination)	30
	Independent study	20
	Sum	60
STUDENT ASSESSEMNT	Written or oral test (teacher's decision) including: patient-based history acquisition, clinical examination, clinico-laboratory data evaluation, differential diagnosis, treatment plan and decisions. Knowledge of clinical signs associated with diverse clinical entities.	

190.195. RECOMMENDED LITERATURE

Barbara Bates: Guide to physical examination and history

INTERNAL MEDICINE - 5th Year, 9th and 10th Semester (mandatory).

CLINICAL TRAINING
(including cardiology and nephrology)

Hours

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (2 weeks of cardiological clinical training and 2 weeks of nephrological clinical training are included)

14

**ECTS Units
Teachers**

All the faculty members of the Internal Medicine Division I.

**Educational objectives
and content**

COURSE OUTLINE

1. GENERAL

SCHOOL	MEDICINE		
DEPARTMENT	INTERNAL MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_911	SEMESTER OF STUDIES	9th AND 10th
COURSE TITLE	INTERNAL MEDICINE-CLINICAL TRAINING		
		TEACHING HOURS PER WEEK	ECTS CREDITS
COURSE TYPE	Teaching, Tutorials, Clinical training		

Tutorials

Call

Attendance

PREREQUISITE COURSES:	
TEACHING AND ASSESSMENT LANGUAGE:	GREEK (IF THERE ARE ERASMUS STUDENTS ENGLISH LANGUAGE IS ALSO USED AT THE CLINICAL ROUNDS)
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBPAGE (URL)	

2.

2. LEARNING OUTCOMES

Leraning outcomes
The aim of the course is to educate the students of the 5 th year in the conduct of clinical practice and acquire the necessary knowledge, skills and attitudes needed in postgraduate medical practice.
General Abilities

Under the guidance of the medical personnel, students learn how to make some therapeutic and diagnostic operations such as blood tests, electrocardiogram and blood sugar measurement. Clean medical coat and decorous behavior is necessary at the Hospital. Students should avoid informing patients, that they attend, on the progress of the clinical, laboratory examinations and to refer them to the relevant doctors. Clinical notes contain confidential information and it is important to protect the confidentiality of the patient.

The students also participate in tutorials-courses and they know the topics of the course in advance. The topics are presented by faculty members and students are adequately prepared to participate actively in the discussion. The presence of all the students is compulsory. Students should also attend all the training events in the clinic obligingly (grand rounds, conferences).

3. COURSE CONTENT

Students are distributed to the pathological sections according to the program of the Secretariat of the Internal Medicine Department under the responsibility of faculty members who have been determined. The main objective is to train the student of the 5th year to take a medical history and be able to make proper physical examination. The student must be familiar with the concept of hospitalization cause, of the disease and medical history and of the conduct of a detailed clinical examination. As has become clear from the previous years, a lot of practice is needed in the approach of the patients and their problems but also in the physical examination. The techniques and skills needed for a proper clinical examination can only be obtained with clinical practice. Therefore, the students are given the opportunity for the above, as they may be repeated even in the same patient on a daily basis. Most health problems can be solved by careful medical history taking and physical examination. If there is any problem, the student can request the help of the doctors of the clinic. Students are, also exposed to the way to approach diseases (and differential treatment). The simultaneous study of books on physical examination and Internal Medicine given, will lead to better understanding of the pathophysiology of diseases.

The student is trained to present clearly, briefly and comprehensively the patient to the group. Efforts should be made to expose the student to as many patients and diseases as possible. At the same time the student is given the opportunity to develop the ability to work with all the members of the medical team.

During the visit the students gain theoretical training on cases hospitalized in the clinic. The trainers make references to the condition of the patient examined and questions that link theory with clinical practice in order to cause concern and better assimilation of knowledge.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	In small groups face to face, and tutorials in small groups
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USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	
TEACHING ORGANIZATION	The students know the topics of the course in advance. The topics are presented by faculty members and students are adequately prepared to participate actively in the discussion. The presence of all the students is compulsory. Students should also attend all the training events in the clinic obligingly (grand rounds, conferences).
STUDENT ASSESSEMNT	Written exam (multiple choice questions) at the end of the 4-week clinical rounds Everyday assessment by the faculty members

5. RECOMMENDED LITERATURE

COURSE OUTLINE

191.196. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED911	SEMESTER OF STUDIES	NINTH
COURSE TITLE	CARDIOLOGY CLINICAL TRAINING		

INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
LECTURES AND CLINICAL PRACTICE		30	10 (14 ACTS)
COURSE TYPE	SCIENTIFIC FIELD		
PREREQUISITE COURSES:	NO		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (IN ENGLISH)		
COURSE WEBPAGE (URL)	-		

192.197. LEARNING OUTCOMES

Learning outcomes

1. BE ABLE TO INTERVIEW CARDIOLOGY PATIENTS
2. BE ABLE TO INTERPRET ECG
3. BE ABLE TO INTERPRET CHEST X-RAY WITH EMPHASIS TO CARDIOLOGY SIGNS
4. BE ABLE TO VENIPUNCTURE AND INSERT ARTERIAL CATHETER
5. BE ABLE TO ANALYSE CHRONIC AND ACUTE CARDIOLOGY PROBLEMS
6. BE ABLE TO USE AUTOMATIC DEFIBRILLATORS
7. BE ABLE TO INTERPRET BASIC CARDIAC ULTRASOUND AND ANGIOGRAPHY IMAGES

General Abilities

SOLITARY WORK (DIAGNOSING BASIC
CARDIAC CONDITIONS)
2.TEAM WORK (COOPERATING IN
MANAGEMENT OF ACUTE CARDIAC
PROBLEMS)

193.198. COURSE CONTENT

1. TEACHING 4 THEMATIC UNITS (DYSпноIEA, CHEST PAIN, PALPITATIONS, SYNCOPE)
2. TEACHING CARDIAC PHYSICAL EXAMINATION
3. TEACHING ECG INTERPRETATION
4. TEACHING BASIC INTERVENTIONAL SKILLS
5. TEACHING DIFFERENTIAL DIAGNOSIS OF CARDIAC CONDITIONS
6. TEACHING BASIC CARDIAC IMAGING SKILLS AND INTERPRETATIONS

194.199. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	IN CLINIC	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	NO	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	LECTURES	32
	PRACTICAL SKILLS	48
	TEAMWORK	100
	PERSONAL WORK	300
	<i>Total number of hours for the Course</i>	480
STUDENT ASSESSMENT	ORAL EXAMS	

195.200. RECOMMENDED LITERATURE

SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT

COURSE OUTLINE

201. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED	SEMESTER OF STUDIES	9 TH
COURSE TITLE	NEPHROLOGY - CLINICAL TRAINING		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		35	4
COURSE TYPE	Skills development, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English (optional)		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)		
COURSE WEBPAGE (URL)			

202. LEARNING OUTCOMES

Leraning outcomes

•

Students during their stay attend clinical training classes in the Renal Centre.

Learning objectives:

- Active participation of students in the daily program of the Nephrology Department and enhancement of their ability in history taking and clinical examination on patients with nephrological problems during daily visit with physicians in Clinic.
- On patient practice.
- Practice and acquaintance with renal replacement methods (dialysis or peritoneal dialysis).
- Discussion of interesting cases.

- Clinical scenarios with nephrological interest. Differential diagnosis and treatment of patients with nephrological problems.
- Attendance of postgraduate courses.

General Abilities

Search, analyze and synthesize data and information, using the necessary technologies

Decision making

Autonomous work

Teamwork

203. COURSE CONTENT

Active participation of students in the daily schedule of the Nephrology Clinic (medical history taking, physical examination, daily visits with physicians in clinics).

Training next to the hospitalized patients. In the clinic are hospitalized patients suffering from:

- Water and electrolytes disorders
- Acid-base balance disorders.
- Arterial hypertension.
- Acute renal failure.
- Diseases of the glomerulus (glomerulonephritis).
- Diabetes mellitus and kidney damage.
- Systemic diseases with renal involvement.
- Kidney transplantation.
- Vascular problems in Haemodialysis.
- Problems in peritoneal dialysis.
- Students are also trained in the basic principles of methods of renal function replacement (haemodialysis and peritoneal dialysis)

204. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face, Clinical training	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Practical and Clinical Exercise Focusing on the Application of Methodologies in the Diagnosis and Treatment of Patients with Nephrology Problems in Small Groups of Students	35
	Study and analysis of literature	20
	Writing assignment	10
	Self study	20
STUDENT ASSESSEMNT	<ul style="list-style-type: none"> Students deliver a writing assignment on a specific issue (eg: acute kidney injury, nephrotic syndrome). 	

205. RECOMMENDED LITERATURE

- Harrison's Nephrology and Acid-Base Disorders, 1st Edition, J. Larry Jameson, Joseph Loscalzo.

**INTERNAL MEDICINE -
CLINICAL TRAINING**

Hours
ECTS Units
Teachers

6th Year, 11th and 12th Semester (mandatory).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (6 weeks).

12

All the faculty members of the Internal Medicine Division I.

*Educational objectives
and content*

COURSE OUTLINE

1. GENERAL

SCHOOL	MEDICINE		
DEPARTMENT	INTERNAL MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_1121	SEMESTER OF STUDIES	11 AND 12
COURSE TITLE	INTERNAL MEDICINE-CLINICAL TRAINING		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	35	12	

Call

COURSE TYPE	Teaching, Tutorials, Clinical training	
PREREQUISITE COURSES:		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK (IF THERE ARE ERASMUS STUDENTS ENGLISH LANGUAGE IS ALSO USED AT THE CLINICAL ROUNDS)	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES	
COURSE WEBPAGE (URL)		

2. LEARNING OUTCOMES

Leraning outcomes

The purpose of this course is to train the students of the 6th year in the exercise of clinical practice and in the acquisition of the necessary knowledge, skills and attitudes needed for the postgraduate medical practice. During the six weeks of exercise, the students are incorporated in the nursing-education units of the Internal Medicine Clinic for 4 weeks and then in the Hematology Unit of Internal Medicine Clinic for 2 weeks.

General Abilities

Students are acting as assistants. They take over patients that are hospitalized and are responsible for writing the medical history of the patients. Students have to monitor the daily progress of their patients and actively participate with their group members in the diagnostic and therapeutic access of these patients.

3. COURSE CONTENT

After consultation and with the guidance of doctors in the team, the responsible for the patient student conduct therapeutic and diagnostic procedures. These include blood sampling, taking arterial blood, chest puncture, puncture of ascites fluid, placing nasogastric catheter, bladder catheterization, etc.

Students must have full and daily updates on the progress of their patients and they should be able to accurately report the status of patients to the attending physician of the team when requested.

Students are on call at the external call of the nursing unit to which they belong. The working hours are 3pm-10pm on weekdays and 8am-10pm on holidays. From the start of the call they are presented to the team members that are in charge and they assign them appropriate tasks. During the call the students are in constant contact with the responsible doctors on call, and they refer to them as for the settlement of the delegated tasks. They must also be constantly accessible by doctors on call, who must know where their students are and what they deal with. Students should also be on duty on 1-2 internal calls.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	In small groups face to face, and tutorials in small groups
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	
TEACHING ORGANIZATION	<p style="text-align: center;"><i>Δραστηριότητα Φόρτος Εργασίας Εξαμήνου</i></p> <p>Students attend and actively participate in the educational process, as scheduled by the clinic in which they incumbent.</p> <p>They attend tutorials in small groups and problem based learning courses.</p>

STUDENT ASSESSEMNT	Written exam (multiple choice questions) at the end of the 6-week clinical practice. The written exam is prerequisite to take the following oral exam on physical examination of a given patient and history taking, and this is followed by oral exam by an exam committee of three faculty members that give the final grade. Everyday assessment by the faculty members
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5.

5. RECOMMENDED LITERATURE

**INTRODUCTION TO
CLINICAL HAEMATOLOGY**

3rd Year, 5th Semester (optional).

Hours

Teaching: -, Laboratories: 2, Tutorial: -, Clinical training: - (per week).

ECTS Units

4

Teachers

A. Mouzaki (Office A₂₂, 1st floor, Preclinical Research Building)

Educational objectives

COURSE OUTLINE

196.206. GENERAL

SCHOOL	HEALTH SCIENCES		
SEAPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_561	SEMESTER OF STUDIES	5th
COURSE TITLE	INTRODUCTION TO LABORATORY HEMATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	4	4	
COURSE TYPE	Elective course. Field of Science (Laboratory Hematology) and Skills Development (perform and interpret laboratory hematological tests)		
PREREQUISITE COURSES:	-		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	

197.207. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none"> • <p>At the end of the course the students should know:</p> <ol style="list-style-type: none"> 1. What is the blood test (BT) <ol style="list-style-type: none"> 1a. What parameters are included in a BT. 1b. Based on which parameters of the BT anemia is diagnosed. 1c. Based on which parameters of the BT anemia is classified. 1d. How do subpopulations of peripheral blood white blood cells are distinguished in BT. 1d. What is the immunophenotype of the blood cells. 2. What are the antigenic systems of red blood cells (RBCs)? <ol style="list-style-type: none"> 2a. Which characteristics of the antigenic systems of erythrocytes are considered clinically important. 2b. Which antibodies against erythrocyte antigens are called “natural” and what are their characteristics. 2c. Which antibodies against erythrocyte antigens are called “immune” and what are their characteristics. 2d. Which laboratory tests check for the presence of antibodies against RBC antigens. 2e. What is the laboratory process of testing compatibility of the blood to be transfused.

3. Which are the blood clotting mechanisms?
3a. Coagulation factors.
3b. What are the laboratory tests of hemostasis?
3c. Analysis of patients' history and laboratory tests to determine hemostasis problems.

General Abilities

Autonomous work
Teamwork
Work in an international environment

198.208. COURSE CONTENT

A. THE BLOOD CELLS

Types, morphology, functions

B. INTERPRETATION OF BLOOD TEST (BT) PARAMETERS

Knowledge of the parameters of BT and their interpretation.

Diagnosis of anemia based on BT and its classification based on BT parameters.

Characterization of leukocyte populations from BT and specific staining of blood smears.

Immunophenotyping for characterization of leukocyte subpopulations.

C. ANTIGENIC SYSTEMS OF ERYTHROCYTES

Knowledge of the antigenic systems of erythrocytes. Methods of laboratory detection of the RBC antigenic systems and their interpretation.

D. IDENTIFICATION OF ANTIBODIES AGAINST RBC ANTIGENS

Basic knowledge of the mechanisms of development of IgM and IgG alloantibodies against RBC antigens.

Laboratory procedures to test erythrocyte compatibility for transfusion.

E. Blood coagulation
 Mechanisms of blood coagulation.
 Coagulation factors.
 Laboratory analyses of coagulation factors.
 Analysis of historical data and laboratory tests of patients to identify problems with blood coagulation.

The lesson is in the form of lectures, tutorials, tutorial and laboratory exercises.

At the end of each module, students deliver a report based on the results of the laboratory and tutorial exercises that they did and focus on the interpretation of their results.

199.209. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	In the classroom and in the lab. Face to face for problem solving.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures and tutorials using ICT. Support of learning process through the e-class platform.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου (h/student)</i>
	Lectures	6
	Tutorials	4
	Tutorial exercises	4
	Laboratory exercises	8
	Homework for problem-solving and preparation of the reports	78

	Total (25h work per 1 ECTS)	100
STUDENT ASSESSEMNT	I. At the end of each module, students deliver a report based on the results of the laboratory and tutorial exercises that have been done and focus on the interpretation of their results. II. Students' attendance is taken into account in the final score.	

200.210. RECOMMENDED LITERATURE

Dacie and Lewis Practical Hematology, 11th ed., Edited by D. Loukopoulos, M. Politou, H. Posiopoulos, Medical Publications, Lagos Dimitrios, 2015, ISBN: 978-960-7875-86-0

3rd Year, 5th Semester (optional).

COURSE OUTLINE

201.211.GENERAL

SCHOOL	School of Medicine		
DEPARTMENT	Internal Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_598	SEMESTER OF STUDIES	5thE
COURSE TITLE	Tropical Medicine and Emerging Infectious Disease		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS	ECTS CREDITS	

	PER WEEK	
LECTURES	2	4
COURSE TYPE	Field of Health Sciences	
PREREQUISITE COURSES:	None	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (in English)	
COURSE WEBPAGE (URL)		

202.212.LEARNING OUTCOMES

<p>Lerning outcomes</p> <ul style="list-style-type: none"> • <p>The course "Travel Medicine and Emerging Infectious Diseases" is a 3rd year optional course that aims to introduce the student to issues related to emerging infectious pathogens, tropical disease and travel medicine.</p> <p>The courses are lectured by infectious diseases or public health specialists by auditorium and are mostly presented in form of clinical cases. They aim to familiarize students with the issues of imported infection, principles of travel medicine, tropical and emerging pathogens, bioterrorism and bioethics.</p> <p>Following successful completion of this course the student is expected to</p> <ul style="list-style-type: none"> • Obtain understanding of epidemiology of emerging infectious diseases in developing and modern world • To achieve a level of competence in the diagnosis, investigation and management of imported infection and in
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the provision of advice in relation to travel medicine

- Understand specific needs and required skills in diagnosis and management of mosquito, tick and food borne diseases
- To achieve a level of competence in the assessment of the returning traveler presenting with fever or diarrheic disease
- Obtain an understanding of infectious diseases as biological warfare
- Understand the principles underlying emerging epidemics and bioethics

General Abilities

Searching, analysis and synthesis of facts and information, as well as using the necessary technologies

Adaptation to new situations

Decision making

Autonomous (Independent) work

Exercise of criticism and self-criticism

Promotion of free, creative and inductive thinking

Respect to multiculturalism and diversity

Exhibiting of social, professional and ethical responsibility and sensitivity to minorities and gender issues

Group work

203.213.COURSE CONTENT

The course includes:

- Introduction, Epidemiology and Management of Emerging Pathogens in developing and modern world (Challenges and Perspectives).
- Principles of Travel medicine (risk assessment, provision of advice, prophylaxis).
- Assessment of Fever in the returning traveller (*Malaria, Leishmania, Trypanosoma, Chaga's, Hepatitis A*).
- Assessment of Diarrhoea in the returning traveller and food borne diseases (*Entamoeba, Salmonella, Shigella, Typhoid and Paratyphoid, Trichinella, Listeria, Giardia*).
- Clinical Cases of mosquito borne diseases (Clinical Manifestations, Diagnosis and Management of *Malaria, Dengue fever, Yellow fever, Zika, West Nile Virus, Chikungunya*).
- Clinical Cases of tick borne diseases (Clinical Manifestations, Diagnosis and Management of *Lyme disease, Relapsing fever, Rocky Mountain Spotted fever, Babesia, Erlichiosis, Fransicella tularensis*).
- Clinical Cases of Eosinophilia and Parasitic Infections of the lung and central nervous system (Clinical Manifestations, Diagnosis and Management of *Taenia solium, Schistosomiasis, Toxoplasmosis, Strongyloides*)
- Principles of Bioethics in Infectious Diseases
- Biological Warfare, Preparation plans and Management (Clinical Manifestations, Diagnosis and Management of *Antrax, Ebola, Chicken Pox*)
- Clinical Cases of tropical skin conditions (*Tropical ulcers, Buruli,*)

- Clinical Manifestations, Diagnosis and Management of HIV and Tuberculosis in the tropics

204.214. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	20
	Written Assignment in Small Study Groups	4
STUDENT ASSESSEMNT	Written assignment conducted in groups	

205.215. RECOMMENDED LITERATURE

- Travel Medicine, Jay S. Keystone, Phyllis E. Kozarsky, David O. Freedman, Hans D. Nothdurft, Bradley A.

Connor editors Elsevier, Philadelphia, Pennsylvania,

- Oxford Handbook of Tropical Medicine, Michael Eddleston, Robert Davidson, Robert Wilkinson and Stephen Pierini Oxford University Press, Oxford
- Manson's Tropical Disease, Saunders Ltd. by Jeremy Farrar, Peter J Hotez, Thomas Junghanss, Gagandeep Kang, David Lalloo, Nicholas J. White
- E learning material / student notes as uploaded in e-class

INFECTIOUS DISEASES – 6th Year, 11th and 12th Semester (optional).

CLINICAL TRAINING

Hours

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35.

ECTS Units

4

Teachers

C. Gogos, M. Maragos, G. Panos.

Description

COURSE OUTLINE

206.216. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_1165	SEMESTER OF STUDIES	6 th year (optional)
COURSE TITLE	INFECTIOUS DISEASES - CLINICAL TRAINING (med 1165)		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		35	4
COURSE TYPE	Skills development, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English (optional)		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBPAGE (URL)	

207.217. LEARNING OUTCOMES

Learning outcomes

-

Students attend clinical training classes.

Learning objectives:

- Active participation of students in the daily program of the Division of Infectious Diseases and enhancement of their ability in history taking and clinical examination on patients with infectious diseases during daily visit with physicians in the Departments of the University Hospital of Patras
- On patient practice.
- Appropriate use of antibiotics.
- Management of immunocompromised patients (e.g. HIV/AIDS, transplant patients, cancer patients)
- Infection Control and prevention of Infections.
- Knowledge of common infectious diseases.
- Discussion of interesting cases.

- Clinical scenarios /Differential diagnosis and treatment of patients presenting with infectious diseases.

General Abilities

Search, analyze and synthesize data and information, using the necessary technologies
Decision making
Autonomous work
Teamwork

208.218. COURSE CONTENT

Active participation of students in the daily schedule of the Division of Infectious Diseases (medical history taking, physical examination, daily visits with physicians in clinics, outpatient clinic).

- Differential diagnosis of patients presenting with clinical features of infectious diseases
- All aspects of antibiotic use
- Management of immunocompromised patients, including those with HIV/AIDS , transplant patients: patients with hematological malignancies
- Diagnosis & management of hospital acquired infections and understanding the principles of prevention and control (including postoperative and intensive care related illness)

- Antimicrobial resistance
- Diagnosis and Management of patients with community acquired infection (outpatient/inpatient)
- Access of appropriate resources to maintain knowledge of existing and emerging infectious diseases
- Treatment of zoonoses – Tuberculosis
- Sexually Transmitted Diseases
- Management and treatment of Hepatitis B and C
- Selection and interpretation of appropriate microbiological diagnostic tests

209.219. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face, Clinical training	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμ</i>
	Practical and Clinical Exercise Focusing on the Application of Methodologies in the Diagnosis and Treatment of Patients with	35

	infection in Small Groups of Students	
	Study and analysis of literature	20
	Writing assignment	10
	Self study	20
STUDENT ASSESMENT	<ul style="list-style-type: none"> • Students deliver a writing assignment on a specific issue (eg: use of antibiotics, clinical syndromes). • Oral examination 	

210.220. RECOMMENDED LITERATURE

- Harrison's Principles of Internal Medicine. Seventeenth Edition
- Notes of lecturers in Greek
- Hellenic guidelines for the Diagnosis and Treatment of Infections 2015 (Hellenic Society for Infe Diseases)

**PNEUMONOLOGY -
CLINICAL TRAINING**
Hours
ECTS Units
Teachers

6th Year, 11th and 12th Semester (optional).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35.

4

K. Spiropoulos, K. Karkoulas

The course takes place in the context of clinical exercises of the 6th year, in small groups, with patients from the Clinic of

Pneumonology.

COURSE OUTLINE

211.221. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_11 66	SEMESTER OF STUDIES	10 TH – 11 TH
COURSE TITLE	PULMONARY MEDICINE		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	2 weeks	4
COURSE TYPE	Field of Science, Skills		
PREREQUISITE COURSES:	Typically, there are not prerequisite course.		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be performed in English in case foreign students also attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		

212.222. LEARNING OUTCOMES

Learning outcomes

-

Pulmonary Medicine is taught during the 10th and 11th semester. The aim of the course is to provide the student with essential knowledge in of pulmonary medicine and the important practical medical skills. Pulmonary medicine is the science of respiratory system and its systematic essential for every medical student and medical doctor.

The lung participates in the exchange of respiratory gases, which is a critical procedure. Moreover, they play a role in human defense, as the lead the air inside the lung and may allow viruses and other microbes enter the bronchial tree. Finally, they allow waste substances to be e while facilitating some other functions of human metabolism.

Symptoms of the respiratory system are quite frequent, and they are a leading cause of submissions to the emergency room.

The aim of the unit “Signs and symptoms” is to understand the main respiratory symptoms, namely cough, haemoptysis, chest pain and dyspno

The aim of the unit “Physical examination and history” is to analyze the methods of physical examination that can be used for the respiratory More specifically a careful medical history is needed, together with patient review, palpation, palpation, touch, and auscultation.

In the unit “Laboratory tests” the student understands spirometry, plethysmography, lung diffusion capacity test, cardiopulmonary exercise arterial blood gases analysis, bronchoscopy, aspiration of pleural effusion and polysomnography. Moreover, more recent imaging techniqu lung are analyzed, such as chest radiography and computed tomography.

The unit “Lung diseases” is dedicated to the most common respiratory diseases: Bronchial asthma, Chronic Obstructive Pulmonary Diseas respiratory tract infections, Interstitial lung diseases, Lung cancer, Pulmonary embolism, Sleep apnoea, Acid-Base Balace, Pleural Tuberculosis.

Generally, by the end of this course the student will, furthermore, have developed the following general abilities:

- Understanding of the main principles of the respiratory system, the main symptoms and the correlation of the lungs to the other syster human body.
- Knowledge of the most important diagnostic tests, as well as their importance in the diagnosis and staging of lung diseases.
- Development of certain medical skills to examine the patient and proceed with a diagnostic procedure.

- Ability to take a complete patient history and reach a differential diagnosis.
- Knowledge of the therapeutic approach in emergency and chronic lung diseases.

General Abilities

Search, analysis and synthesis of information, using new technologies, Individual work, Team work, Development of new scientific ideas, Promotion of free, creative and inductive thinking.

213.223. COURSE CONTENT

- Signs and symptoms
 - Cough
 - Sputum
 - Haemoptysis
 - Chest pain
 - Dyspnoea
- Physical examination and history
 - History
 - Inspection

- Palpation
- Percussion
- Auscultation
- Diagnostic tests
 - Spirometry
 - Plethysmography
 - Diffusion capacity
 - Cardiopulmonary exercise test
 - Arterial blood gas analysis
 - Pulse oximetry
 - Bronchoscopy
 - Pleural effusion
 - Sleep study
 - Chest radiography
 - Radiology of the respiratory system
- Lung diseases
 - Asthma
 - COPD

- Respiratory infections
- Interstitial lung disease
- Lung cancer
- Pulmonary embolism
- Sleep apnoea
- Acid base balance
- Oxygen therapy
- Pleural effusion
- Tuberculosis
- Lung cancer

214.224. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Clinic	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Clinic. Use of electronic platform of University of Patras eclass.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμ</i>
	Lectures	2 weeks

	Total	2 weeks
STUDENT ASSESSEMNT	Written and/or oral exam at the end of the lectures with multiple choice and questions.	

215.225. RECOMMENDED LITERATURE

ERS handbook, Respiratory Medicine. Paolo Palange, Anita Simonds. 2013. European Respiratory Society. ISBN: 978-1-84984-0-

**IMMUNO-
HAEMATOLOGY****Hours****ECTS Units****Teachers**6th Year, 11th and 12th Semester (optional).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35.

4

Athanasia Mouzaki

Description**COURSE OUTLINE****216.226. GENERAL**

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_1169	SEMESTER OF STUDIES	12th
COURSE TITLE	IMMUNOHEMATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	4	4	
COURSE TYPE	Elective course. Fields of Science (Immunology and Hematology) and Skills Development (perform and interpret experiments, learning immunological methods, learning to write scientific articles)		
PREREQUISITE COURSES:	Basic Immunology and Hematology		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case ERASMUS students attend the course.		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	

217.227. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none"> • <p>At the end of the course the students should have: A good knowledge of current topics of clinical immunology and immunohematology. A good knowledge of the types of immunotherapies already applied to patients or they're being developed. A good knowledge and ability to plan experiments to solve problems related to immune disease pathogenesis. Optional: Learned the methodology of immune experimental methodology such as HLA typing, phenotypic analysis of immune cells, measurement of the concentration of cytokines and other proteins in peripheral blood and bodily fluids, and in cell culture supernatants. Learned how to write scientific articles in immunology topics.</p>
General Abilities
Autonomous work Teamwork Work in an international environment

218.228. COURSE CONTENT

The cells of the immune system - types, functions, communication

Immune tolerance

Antibodies - types, functions

Vaccines

The HLA system

Malfunctions of the immune system -

- Hypersensitivity reactions

- Autoimmune diseases

- Neoplasias

Immunology of transplantation

The immune system and HIV/AIDS

Immunomodulation -

- Interventions at the molecular and cellular level

- Therapies with antibodies, artificial antigens (peptides)

- Transplantation of hematopoietic stem cells

Optional:

1. Learning peripheral blood cell phenotyping using flow cytometry and analysis of the results
2. Small laboratory project entailing culture of peripheral blood cells, methods for isolation of cell populations, measurement of cytokine expression and secretion levels in isolated cell populations
3. Learning HLA typing by PCR methods
4. Learning to write scientific articles on an immunological topic

219.229. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD

In the classroom and in the lab. Face to face for problem solving.

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures and tutorials using ICT. Support of learning process through the e-class platform.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου (h/student)</i>
	Lectures	20
	Tutorials	8
	Laboratory work	18
	Laboratory work (6 conduct hours per week x 13 weeks)	78
	Hours for private study of the student and preparation of home-work	54
	<i>Total number of hours for the Course (25 hours of work-load per ECTS credit)</i>	<i>100</i>
STUDENT ASSESSMENT	<p>The students get a grade at the end of the course with one of the following evaluation methods:</p> <ol style="list-style-type: none"> 1. The students are given 15 questions of which they have to answer 10 and hand in their answers within 2 weeks. 2. If the students choose to do a laboratory project, they hand in their reports with their results and interpretation thereof within 1 month. 3. If the students opt to try and write a paper, they hand in 	

	<p>their paper within 6 months, which is then evaluated.</p> <p>The evaluation criteria can be found in the e-class platform.</p>
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220.230. RECOMMENDED LITERATURE

Textbook: Lippincott’s Illustrated Reviews: Immunology”, 2nd Edition by T. Doan, R. Melvold, S. Viselli, C. Waltenbaugh, 2014 (ISBN: 978-960-394-986-2). Responsible for the Greek Edition: Athanasia Mouzaki.

All scientific articles used in teaching and, also, all articles the students require if they write a report or paper are made available to them.

INTRODUCTORY COURSE: The immune system of humans.

LESSONS 1-4: The cells of immune system – Types, functions, interaction, immunological tolerance.

LESSON 5: Antibodies – Types, functions.

LESSON 6: The HLA system.

LESSON 7: Hypersensitivity tests.

LESSONS 8, 9: Dysfunction of the immune system – Autoimmune diseases, cancers.

LESSON 10: Immunology of transfusions.

LESSON 11: The immune system & HIV/AIDS.

LESSONS 12-14: Immunomodulation – interventions in molecular and cellular level, antibody therapy, artificial antigens (peptides), bone marrow and haematopoietic cells.

At the end of each session students receive bibliography. At the end of the course the students deliver a homework that focuses on a topic chosen from a specific list proposed by the instructor.

CARDIOLOGY - CLINICAL TRAINING

**Hours
ECTS Units**

6th Year, 11th and 12th Semester (optional).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35.

4

Teachers

D. Alexopoulos, I. Cheiladakis, G. Chachalis, P. Davlouros.

Description

COURSE OUTLINE

221.231. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED1154	SEMESTER OF STUDIES	11thELEVETH
COURSE TITLE	CARDIOLOGY (OPTIONAL CLINICAL ACTIVITY)		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
LECTURES AND CLINICAL PRACTICE	30	2 (44 ACTS)	
COURSE TYPE	SCIENTIFIC FIELD		
PREREQUISITE COURSES:	NO		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (IN ENGLISH)		
COURSE WEBPAGE (URL)	-		

222.232. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none">•
<ol style="list-style-type: none">8. BE ABLE TO INTERVIEW CARDIOLOGY PATIENTS9. BE ABLE TO INTERPRET ECG10. BE ABLE TO INTERPRET CHEST X-RAY WITH EMPHASIS TO CARDIOLOGY SIGNS11. BE ABLE TO VENIPUNCTURE AND INSERT ARTERIAL CATHETER12. BE ABLE TO ANALYSE CHRONIC AND ACUTE CARDIOLOGY PROBLEMS13. BE ABLE TO USE AUTOMATIC DEFIBRILLATORS14. BE ABLE TO INTERPRET BASIC CARDIAC ULTRASOUND AND ANGIOGRAPHY IMAGES
General Abilities
<ol style="list-style-type: none">1. SOLITARY WORK (DIAGNOSING BASIC CARDIAC CONDITIONS)2. TEAM WORK (COOPERATING IN MANAGEMENT OF ACUTE CARDIAC PROBLEMS)

223.233. COURSE CONTENT

1. TEACHING 4 THEMATIC UNITS (DYSпноIEA, CHEST PAIN, PALPITATIONS, SYNCOPE)
2. TEACHING CARDIAC PHYSICAL EXAMINATION
3. TEACHING ECG INTERPRETATION
4. TEACHING BASIC INTERVENTIONAL SKILLS
5. TEACHING DIFFERENTIAL DIAGNOSIS OF CARDIAC CONDITIONS
6. TEACHING BASIC CARDIAC IMAGING SKILLS AND INTERPRETATIONS

224.234. TEACHING AND LEARNING METHODS - ASSESSMENT

<p>TEACHING METHOD <i>Πρόσωπο με πρόσωπο, Εξ αποστάσεως εκπαίδευση κ.λπ.</i></p>	<p>IN CLINIC</p>
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Χρήση Τ.Π.Ε. στη Διδασκαλία, στην Εργαστηριακή Εκπαίδευση, στην Επικοινωνία με τους φοιτητές</i></p>	<p>NO</p>

TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	<i>Total number of hours for the Course</i>	
THIS IS AN OPTIONAL CLINICAL ACTIVITY THEREFORE THE TOTAL TEACHING HOURS MAY VARY		
STUDENT ASSESSMENT	NO EXAMS	

225.235. RECOMMENDED LITERATURE

SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT

**RHEUMATOLOGY -
CLINICAL TRAINING**

Hours
ECTS Units
Teachers

6th Year, 12th Semester (optional).

Teaching: -, Laboratories: -, tutorial: -, Clinical training: 35 (per week).

4

A. Andonopoulos, S. N. Liossis, D. Daousis

Description

COURSE OUTLINE

226.236. GENERAL

SCHOOL	Faculty of Health Sciences		
DEPARTMENT	Medical School		
LEVEL OF COURSE	PreUndergraduate		
COURSE CODE	MED_1164	SEMESTER OF STUDIES	9-12
COURSE TITLE	Rheumatology Clinic		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Practical training in Rheumatology	30	4
COURSE TYPE	Field of Science and Skills Development		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek- English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (English)		
COURSE WEBPAGE (URL)			

227.237. LEARNING OUTCOMES

Leraning outcomes

-

The students attend the Rheumatology Clinic for 2 weeks. During their practical training the students will encounter patients suffering from all kinds of systemic rheumatic diseases as well as patients with degenerative diseases such as osteoarthritis. They will participate in obtaining the medical history of patients and during their second week in the clinic they may perform physical examination on patients with rheumatic diseases, under close supervision. Following the completion of the Rheumatology Clinic each day, the students participate in rounds in different wards of our Hospital, in cases where a rheumatology consultation is asked for. Each Friday students attend educational courses/literature reviews held in our Department. Following the completion of this course students will be able to 1) recognize typical patients with the most common rheumatic disease (RA, SLE, spondyloarthropathies, gout) 2) differentiate “inflammatory” vs “degenerative” causes of musculoskeletal symptoms, 3) *Obtain medical history in patients with musculoskeletal symptoms and 4) Perform physical examination in patients with rheumatic diseases*

General Abilities

Autonomous work
Group work
Working in an interdisciplinary environment

228.238. COURSE CONTENT

Practical training in Rheumatology

229.239. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Practical training in the Clinic		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES			
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>	
	Practical training in the Clinic	6 hours/ day for 2 weeks	
STUDENT ASSESSEMNT	Verbal examination at the end of the clinic		

230.240. RECOMMENDED LITERATURE

**GASTROENTEROLOGY -
CLINICAL TRAINING**

6th Year, 11th and 12th Semester (optional).
Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

Hours
ECTS Units
Teachers

4
V. Nikolopoulou, K. Thomopoulos.

Description

COURSE OUTLINE

231.241. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE - OPTIONAL		
COURSE CODE	MED_1163	SEMESTER OF STUDIES	ELEVENTH & TWELFTHIA & IB
COURSE TITLE	GASTROENTEROLOGY -- HEPATOLOGY CLINICAL TRAINING		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	35	42	
COURSE TYPE	FIELD OF SCIENCE		
PREREQUISITE COURSES:	NO		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		

COURSE WEBPAGE (URL)<http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=97>**232.242. LEARNING OUTCOMES****Leraning outcomes**

-

The students during this course at the Department of Gastroenterology are trained as follows:

- Medical history taking
- Clinical examination of hospitalized patients
- Teaching on the main problems of Gastroenterology – Hepatology
- Rotational monitoring in the clinics of the Department of Gastroenterology
- Rotational monitoring of the Endoscopic Program

General Abilities

- *Searching, analysis and synthesis of data and information, using the necessary technologies*
- *Adaptation to new situations*
- *Decision making*
- *Autonomous (Independent) work*

- *Group work*
- *Working in an interdisciplinary environment*
- *Production of innovative research ideas*
- *Exercise of criticism and self-criticism*
- *Promotion of free, creative and inductive thinking*

233.243. COURSE CONTENT

The content of integrated study in Gastroenterology concerns the main and most representative disorders of the digestive system. The educational units that are taught include:

CLINICAL EXAMINATION, DIAGNOSTIC APPROACH AND THERAPEUTIC INTERVENTIONS OF DIGESTIVE DISORDERS IN HOSPITALIZED PATIENTS, IN CLINICS AND IN THE EMERGENCY SERVICES OF GASTROENTEROLOGY DEPARTMENT

234.244. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (PowerPoint : in teaching.	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμ
	Clinical exercise	2 weeks

STUDENT ASSESMENT	Oral examination by the Teaching staff of the department at the end of the course.
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235.245. RECOMMENDED LITERATURE

Bates' Guide to Physical Examination and History Taking
Harrison's Principles of Internal Medicine
Kumar and Clark's Clinical Medicine,
Davidson's Principles and Practice of Medicine
CURRENT Medical Diagnosis and Treatment 2018

Related scientific journals:
Gastroenterology, Gut, Hepatology, J Hepatology

NEPHROLOGY - CLINICAL TRAINING 6th Year, 11th and 12th Semester (optional).
Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 25 (per week).
ECTS Units 4
Teachers D. Goumenos, K. Fourtounas, E. Papachristou

Description

COURSE OUTLINE

236.246. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_1162	SEMESTER OF STUDIES	11 th and 12 th (optional)
COURSE TITLE	NEPHROLOGY - CLINICAL TRAINING		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		35	4
COURSE TYPE	Skills development, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English (optional)		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)		
COURSE WEBPAGE (URL)			

237.247. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •

Students during their stay attend clinical training classes in the Renal Centre.

Learning objectives:

- Active participation of students in the daily program of the Nephrology Department and enhancement of their ability in history taking and clinical examination on patients with nephrological problems during daily visit with physicians in Clinic.
- On patient practice.
- Practice and acquaintance with renal replacement methods (dialysis or peritoneal dialysis).
- Discussion of interesting cases.

- Clinical scenarios with nephrological interest. Differential diagnosis and treatment of patients with nephrological problems.
- Attendance of postgraduate courses.

General Abilities

Search, analyze and synthesize data and information, using the necessary technologies

Decision making

Autonomous work

Teamwork

238.248. COURSE CONTENT

Active participation of students in the daily schedule of the Nephrology Clinic (medical history taking, pt examination, daily visits with physicians in clinics).

Training next to the hospitalized patients. In the clinic are hospitalized patients suffering from:

- Water and electrolytes disorders
- Acid-base balance disorders.
- Arterial hypertension.
- Acute renal failure.
- Diseases of the glomerulus (glomerulonephritis).
- Diabetes mellitus and kidney damage.
- Systemic diseases with renal involvement.
- Kidney transplantation.
- Vascular problems in Haemodialysis.
- Problems in peritoneal dialysis.
- Students are also trained in the basic principles of methods of renal function replacement (haemodialysis and peritoneal dialysis)

239.249. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face,
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	Clinical training	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Practical and Clinical Exercise Focusing on the Application of Methodologies in the Diagnosis and Treatment of Patients with Nephrology Problems in Small Groups of Students	35
	Study and analysis of literature	20
	Writing assignment	10
	Self study	20
STUDENT ASSESSEMNT	<ul style="list-style-type: none"> Students deliver a writing assignment on a specific issue (eg: acute kidney injury, nephrotic syndrome). 	

240.250. RECOMMENDED LITERATURE

- Harrison's Nephrology and Acid-Base Disorders, 1st Edition, J. Larry Jameson, Joseph Loscalzo.

ONCOLOGY - CLINICAL TRAINING

Hours

ECTS Units

Teachers

6th Year, 11th and 12th Semester (optional).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

4 units

C. Kalofonos, T. Makatsoris, A. Koutras

Description

COURSE OUTLINE

241.251. GENERAL

SCHOOL	Medical Sciences		
SEPARTMENT	Medicine		
LEVEL OF COURSE	Pre Undergraduate		
COURSE CODE	MED_1167	SEMESTER OF STUDIES	11 th (optional)
COURSE TITLE	Oncology (Clinical Training)		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	35	4	
COURSE TYPE	Skills development, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English (optional)		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)		

242.252. LEARNING OUTCOMES**Learning outcomes**

-

Active participation of the students in the daily program of the Division of Oncology (history taking, physical examination, evaluation of the laboratory tests, the radiology exams and the results of patients' biopsies who are evaluated in the outpatient clinic as well as the chemotherapy unit).

- On patient practice.
- Training and acquaintance with the chemotherapy drugs that are used.
- Principles of chemotherapy administration.
- Evaluation of laboratory and radiologic tests.
- Discussion of interesting cases
- Principles of clinical research on the basis of clinical trials.
- Attendance of educational activities of the Division of Oncology as well as the University Hospital's Tumor Board.

General Abilities

Search, analyze and synthesize data and information, using the necessary technologies
Decision making
Autonomous work
Teamwork
Work in an international environment
Multidisciplinary work
Production of new research questions

243.253. COURSE CONTENT

- Acquaintance with commonly used chemotherapy regimens.
- Calculation of medication dosing.
- Identification and management of chemotherapy toxicities.
- Principles of management of common tumors (e.g. breast, lung, colon cancer)
- Evaluation of laboratory and radiologic tests.

244.254. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Practical and Clinical Exercise Focusing on the Application of Methodologies in the Diagnosis and Treatment of Patients with Oncology Problems in Small Groups of Students	35
	Study and analysis of literature	10
	Self study	20
	<i>Total number of hours for the Course</i>	65
STUDENT ASSESSMENT	Students take an oral exam at the end of their 2 weeks training.	

245.255. RECOMMENDED LITERATURE

MANUAL OF CLINICAL ONCOLOGY , CASCIATO

**ENDOCRINOLOGY -
CLINICAL TRAINING**

Hours

ECTS Units

Teachers

6th Year, 1st and 12th Semester (optional).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

4

T. Alexandrides, V. Kyriazopoulou, A. Psirogiannis, K. Markou, I. Habeos, N. Georgopoulos.

The contribution of doctors of the Greek Health System (A. Theodoropoulou and M. Michalaki) and trainee doctors is important.

Description

COURSE OUTLINE

246.256. GENERAL

SCHOOL	HEALTH SCIENCES
DEPARTMENT	MEDICINE
LEVEL OF COURSE	UNDERGRADUATE

COURSE CODE	MED_1161	SEMESTER OF STUDIES	9 th - 10 th
COURSE TITLE	CLINICAL ENDOCRINOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	25	4	
COURSE TYPE	SCIENTIFIC AREA		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)	eclass.upatras.gr		

247.257. LEARNING OUTCOMES

Leraning outcomes
•
Disease definition
Pathogenesis

Clinical signs and symptoms

Laboratory work-up

Diagnosis

Differential diagnosis

Therapy

Development of the clinical skills in taking the medical history and performing the physical examination

Evaluation of laboratory tests, carrying out dynamic tests, thyroid ultrasound, Fine Needle Aspiration of thyroid nodules and lymph-nodes of the neck, evaluation of CTs and MRIs of the endocrine glands.

General Abilities

Data and information gathering, analysis and synthesis

Decision making

Autonomic and team work

248.258. COURSE CONTENT

Hypothalamus – Pituitary

Clinical case (headache, hemi-anopsia, reduced libido)

Anatomy

Hypothalamus – Nuclei

Pituitary

General

Neuro-hormones (releasing hormones)

Pituitary hormones

Receptors

GnRH – Pulsatile secretion-circadian rhythms

The concept of feed-back regulation of hormone secretion

Growth Hormone (GH)

Acromegaly

GH deficiency

Prolactin

Tumors

Pituitary adenomas

Hypothalamic and parasellar tumors

Pituitary Failure

Adenohypophysis

Introduction-Etiology-Therapy

Hypophysitis

Posterior Lobe (Neurohypophysis)

Diabetes insipidus

Syndrome of Inappropriate ADH secretion (SIADH)

Hypogonadism

Hypogonatrophic

Hypergonadotropic

Disorders of Menstrual Period

Menopause

Diabetes Mellitus

Clinical Case: (polyuria, polydipsia, weight loss, muscle weakness)

Diabetes mellitus

Epidemiology

Diagnosis

Types of Diabetes

Pancreas (anatomy, islets, physiology, hormones)

Insulin (Secretion, Action)

Glucagon (Secretion, Action)

Type 2 Diabetes Mellitus

Pathogenesis
Clinical presentation
Metabolic syndrome
Therapy

MODY

Gestational Diabetes

Type 1 Diabetes Mellitus – LADA

Pathogenesis
Clinical presentation
Therapy

Complications

Acute: Ketosis

Hyperosmosis

Chronic:

Pathogenesis (general)

Retinopathy

Neuropathy

Nephropathy

Atherosclerosis

Diabetic foot

Hypoglycemia

General

In diabetes

In non-diabetic

Lipids

Introduction

Lipoproteins

Lipoprotein metabolism

Primary dyslipidemias

Secondary dyslipidemia

Therapy

Obesity

Etiology

Complications

Treatment

Thyroid

Embryology

Anatomy

Physiology

Hypothalamic-Pituitary-Thyroid axis
Synthesis and secretion of thyroid hormones
Thyroid hormone transport and action
Iodine deficiency
Goiter
Thyroid nodule
Evaluation of thyroid function
Hyperthyroidism
Hypothyroidism
Thyroiditides
Thyroid disorders in pregnancy
Thyroid cancer

Mineral Metabolism - Hormones and disorders

Structure and Function of the Skeleton
Bone remodeling and its regulation
Calcium and phosphorus homeostasis
The system of vitamin D
 Hypercalcemia
 Hyperparathyroidism

Hypocalcemia

Hypoparathyroidism

Pseudo-hypoparathyroidism

Pagets disease

Osteoporosis

Epidemiology

Pathogenesis

Prevention

Treatment

Adrenals

Clinical case: A patient with orthostatic hypotension and skin pigmentation

Anatomy- Histology

Hormones: Glucocorticoids

Mineralocorticoids

Catecholamines

Hypothalamic-Pituitary-Adrenal axis

CRH-ACTH

Hormone action

Adrenal Insufficiency

ADDISON's disease

Etiology

Clinical presentation

Diagnosis

Differential diagnosis

Treatment

Acute adrenal insufficiency

Glucocorticoid Hypersecretion (CUSHING's syndrome)

Etiology

Clinical presentation

Laboratory findings

Diagnosis

Treatment

Adrenal incidentalomas

Endocrine Hypertension

Regulation of aldosterone secretion

Primary aldosteronism

Clinical presentation

Diagnosis

Treatment

<p>Catecholamines</p> <p>Pheochromocytoma- Paragangliomas</p> <p>Clinical presentation</p> <p>Diagnosis</p> <p>Treatment</p>

249.259. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Clinical course at the outpatient clinic of the Endocrine Division Department of Medicine	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμ</i>
	Medical History taking and writing	
	Physical Examination	
	Evaluation of laboratory tests	
	Dynamic tests	
	Neck and thyroid ultrasound	
<i>Fine needle aspiration of thyroid nodules</i>		

STUDENT ASSESSEMENT	Greek and English language Oral examination
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250.260. RECOMMENDED LITERATURE

Harrison's Principles of Internal Medicine
Davidson's Internal Medicine,
The Endocrine System at a Glance (Ben Greenstein, Diana Wood)

**HAEMATOLOGY -
CLINICAL TRAINING**

Hours
ECTS Units
Teachers

6th Year, 11th and 12th Semester (optional).

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

4

All the members of the Teaching Staff from the Haematology unit in the Pathology Clinic.

Description

COURSE OUTLINE

251.261. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED1160	SEMESTER OF STUDIES	11 th
COURSE TITLE	CLINICAL HEMATOLOGY AND MOLECULAR TARGETED TREATMENT		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	3	4	
Tutorial on microscopy-guided morphological diagnosis	3		
Educational visit to inpatients and outpatients	27		
	Totally 33 hours x 3 weeks = 99 hours		
COURSE TYPE	Scientific area and Skills Development		
PREREQUISITE COURSES:	PATHOLOGY AND HEMATOPATHOLOGY, INTEGRATED NOSOLOGY OF THE HEMATOPOIETIC SYSTEM		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)	Under construction		

252.262. LEARNING OUTCOMES

Lerning outcomes

-

This is a tutorial training course in Clinical Hematology, with the opportunity to approach and practice the clinico-laboratory nature of this area of Internal Medicine, be exposed to all the specific fields and activities of this specialty, and participate in the clinical practice and implementation of the modern methods of diagnostic investigation of the patient with hematological disorders. It also includes clinical exercises / patterns of application of the modern diagnostic work-up, comprehensive demonstration of the importance of blood cell morphology with the incorporation of microscopic morphological analysis into the diagnostic process of the hematopoietic tissue disorders. Finally, it includes description of the novel therapeutic strategies, both, the conventional and the molecular targeting approaches, upon real patient cases across the whole range of the hematopoietic tissue disorders.

Students, who will attend the course will compile and integrate the knowledge they have gained after their training in the Clinical Pathology of the Hematopoietic Tissue (5th semester) and the nosology of the blood diseases, which were taught in the Integrated Hematology Teaching course (6th semester).

At the end of this course students are expected to have perceived the scientific field and the whole disease spectrum of the modern hematology, the dual (clinical-laboratory) nature of this field of internal medicine and the dynamics of its evolution. In particular, after successful completion of the course students they should:

- Be aware of the currently applied classification systems of the neoplastic and the non-neoplastic hematopoietic tissue disorders.
- Practice the diagnostic approach and work-up of patients with anemia, and they should be aware of the procedures preventing the birth of a patient with hemoglobinopathies, as well as of the procedures for the appropriate prenatal diagnosis of potentially affected fetuses.

- Have perceived and realized the appropriate diagnostic approach for investigating numerical abnormalities of a complete blood analysis and be aware of the differential diagnosis of any of these disorders.
- Know the classification of acute leukemias and their current methods of delegate diagnosis of these diseases (flow cytometry, cytogenetics, molecular biology methods, etc.).
- Have understood the platelet and coagulation disorders and are capable to appropriately approach a patient with a bleeding or a thrombotic disorder.
- Perform blood and bone marrow smears and be able to recognize the normal peripheral blood cells on routine microscopic examination.
- Know to perform the necessary diagnostic work-up to patients with lymphoproliferative disorders and the appropriate staging procedures in these diseases.
- Recognize the myelodysplastic and the bone marrow failure syndromes, as well as the chronic myeloproliferative neoplasms, their epidemiology, the necessary diagnostic work up and their morphological, clinical, cytogenetic and molecular findings.
- Understand the basic intracellular signal transduction pathways disrupted in the neoplastic blood disorders and recognize the key drugs with which it is attempted to intervene and restore them.
- Be capable to describe strategies for intervention with molecular targeting therapies in key diseases of the hematopoietic tissue where these therapies have long ago been established as routine treatments (eg chronic myelogenous leukemia, multiple myeloma, etc.).

General Abilities

- *Teamwork along with the tutors*
- *Autonomous / Individual work and highlighting of skills and initiatives*
- *Promoting free creative and inductive thinking*
- *Ability to write a review work, upon a selected field*
- *Ability to produce, design and promote a research idea*

253.263. COURSE CONTENT

- Normal and derranged hematopoiesis. Generation of clonality and neoplastic transformation
- Benign - non-neoplastic hematopoietic tissue disorders. Investigation, diagnostic approach and differential diagnosis of the anemia. Hematinic component' deficient and hemolytic anemias.
- Physiology of hemostasis and thrombosis. Investigation, diagnostic approach and differential diagnosis of the platelet disorders with haemorrhagic manifestations.
- Transfusion medicine. Indications for whole blood and blood products' transfusions. Therapeutic and diagnostic apheresis and cell-based therapies.
- Bone marrow failure syndromes and chronic myeloproliferative neoplasms
- Acute leukemias, pathogenesis and pathophysiology of leukemia, leukemic hematopoiesis. Principles of chemotherapy and molecular targeting therapies for neoplastic blood disorders.
- Hematopoietic stem cell transplantation autologous and allogeneic.
- Chronic lymphoproliferative disorders, Hodgkin's and non-Hodgkin's lymphomas nodal and extranodal. Chronic lymphocytic leukemia and non-clonal lymphoproliferations

- Plasma cell dyscrasias, multiple myeloma and related diseases, diagnosis and management
- Consultation hematology for the general family medicine and hematological problems encountered in the clinical practice of various medical specialties.
- Principles of laboratory analysis and morphology of the peripheral blood, bone marrow and lymph nodes.

254.264. TEACHING AND LEARNING METHODS - ASSESSMENT

<p>TEACHING METHOD.</p>	<p>Interactive lectures of thematic sections</p> <p>Participation in teamwork activities, visits at the inpatient hematology ward, monitoring of outpatients with hematological disorders in the outpatient</p> <p>Training in morphology and diagnostic microscopy of the peripheral blood, hematopoietic bone marrow and the lymph nodes</p>
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</p>	<p>Teaching for the use of light microscopy</p> <p>Training in scientific literature search and in retrieving and documentation</p>

	information from bibliographic databases (PubMed, Web of Science etc) Support of the learning process by uploading educational material to the e-class platform														
TEACHING ORGANIZATION	<table border="1"> <thead> <tr> <th><i>Teaching Method</i></th> <th><i>Semester Workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>10</td> </tr> <tr> <td>Clinical teamwork</td> <td>27</td> </tr> <tr> <td>Outpatient Clinic teamwork</td> <td>36</td> </tr> <tr> <td>Tutorial on microscopy</td> <td>9</td> </tr> <tr> <td>Self-study</td> <td>18</td> </tr> <tr> <td>Total number of hours for the Course</td> <td>100</td> </tr> </tbody> </table>	<i>Teaching Method</i>	<i>Semester Workload</i>	Lectures	10	Clinical teamwork	27	Outpatient Clinic teamwork	36	Tutorial on microscopy	9	Self-study	18	Total number of hours for the Course	100
	<i>Teaching Method</i>	<i>Semester Workload</i>													
	Lectures	10													
	Clinical teamwork	27													
	Outpatient Clinic teamwork	36													
	Tutorial on microscopy	9													
	Self-study	18													
Total number of hours for the Course	100														
STUDENT ASSESSMENT	<p>Daily assessment of actual clinical work and development of clinical skills</p> <p>Written evaluation of the performance with multiple choice questions</p> <p>Participation in team work and evaluation of initiatives, cooperation and effectiveness</p> <p>Presentation of a review paper in a specified field</p> <p>Possibility to develop research initiatives and appropriate assessment</p>														

255.265. RECOMMENDED LITERATURE

Textbooks:

Williams Hematology, 9th Edition 2016

Wintrobe's Clinical Hematology, 14th Edition 2018

Related Scientific Journals:

Blood, Lancet Hematology, Haematologica, Leukemia, Blood Cancer Journal, American Journal of Hematology, Bone Marrow Transplantation, Transfusion, Journal of Thrombosis and Hemostasis

Transplant 4th Year, 11th and 12th Semester (optional).

Hours Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

ECTS Units 4

Teachers

COURSE OUTLINE

256. GENERAL

SCHOOL	Medicine		
DEPARTMENT	Medical school		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_873	SEMESTER OF STUDIES	8 th

COURSE TITLE	Transplant	
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures	12,5	5
COURSE TYPE	Field of Science	
PREREQUISITE COURSES:	Typically, there are no prerequisite courses. Essentially, the student should possess knowledge of basic Anatomy, Physiology and Surgery	
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be performed in English, in case foreign students attend the course.	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBPAGE (URL)		

257. LEARNING OUTCOMES

Learning outcomes

-

Understanding of the immunological mechanisms of transplants

Understanding of the rejection mechanisms

Understanding of the anatomy and physiology of organ transplants

Understanding of brain death and organ donation

General Abilities

Search, analysis and synthesis of data with the use of appropriate technologies

Decision making

Working alone and as part of a team

258. COURSE CONTENT

Immunology of transplants

Organ removal and preservation

Kidney transplant

Liver transplant

Pancreas transplant

Multiorgan transplant

259. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face, e-class.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of I.C.T (eg Powerpoint) in teaching. The lectures are uploaded on the Internet (e-class).	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures (12,5 hours/week x 2 weeks)	25
	Participation in the OR (after consulting the Professor)	Optional
STUDENT ASSESSMENT	<p>Written assessment, lasting 1 hour. Minimum passing grade: 5.</p> <p>Possibility of writing an assignment ~5-10 pages long, towards improving the final grade, provided that the student has reached the minimum passing grade.</p>	

260. RECOMMENDED LITERATURE

D. Voros, Surgery, 2nd edition, Parisianou A.E. 2014

E-class notes

CLINICAL EXERCISE IN CARDIOLOGY

Address University Hospital of Patras, 2nd floor-Haemodynamic Laboratory Tel: (0030)2610-999281, FAX: (0030)2610-992941

Staff of Cardiology Department

Professor George Hahalis

Assistant Professors Ioannis Chiladakis, Periklis Davlouros

Participation in Comprehensive Cardiology I of 3rd year of 2nd semester.

Cardiology 5th year, Semester A + B (compulsory subject) and 6th year, Semester A + B (in choice)

Teaching-clinical-coronary care unit. The lesson includes electrocardiogram, differential diagnosis of cardiac pain-dyspnea and syncope.

Instructors

G.Hahalis , I.Chiladakis, P.Davlouros

COURSE OUTLINE

261.266. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED1154	SEMESTER OF STUDIES	11thELEVENTH
COURSE TITLE	CARDIOLOGY (OPTIONAL CLINICAL ACTIVITY)		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
LECTURES AND CLINICAL PRACTICE		30	2 (4 ACTS)
COURSE TYPE	SCIENTIFIC FIELD		
PREREQUISITE COURSES:	NO		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (IN ENGLISH)
COURSE WEBPAGE (URL)	-

262.267. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none"> • <ol style="list-style-type: none"> 15. BE ABLE TO INTERVIEW CARDIOLOGY PATIENTS 16. BE ABLE TO INTERPRET ECG 17. BE ABLE TO INTERPRET CHEST X-RAY WITH EMPHASIS TO CARDIOLOGY SIGNS 18. BE ABLE TO VENIPUNCTURE AND INSERT ARTERIAL CATHETER 19. BE ABLE TO ANALYSE CHRONIC AND ACUTE CARDIOLOGY PROBLEMS 20. BE ABLE TO USE AUTOMATIC DEFIBRILLATORS 21. BE ABLE TO INTERPRET BASIC CARDIAC ULTRASOUND AND ANGIOGRAPHY IMAGES
General Abilities

1. SOLITARY WORK (DIAGNOSING BASIC CARDIAC CONDITIONS)
2. TEAM WORK (COOPERATING IN MANAGEMENT OF ACUTE CARDIAC PROBLEMS)

263.268. COURSE CONTENT

1. TEACHING 4 THEMATIC UNITS (DYSпноIEA, CHEST PAIN, PALPITATIONS, SYNCOPE)
2. TEACHING CARDIAC PHYSICAL EXAMINATION
3. TEACHING ECG INTERPRETATION
4. TEACHING BASIC INTERVENTIONAL SKILLS
5. TEACHING DIFFERENTIAL DIAGNOSIS OF CARDIAC CONDITIONS
6. TEACHING BASIC CARDIAC IMAGING SKILLS AND INTERPRETATIONS

264.269. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	IN CLINIC	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	NO	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	<i>Total number of hours for the Course</i>	
STUDENT ASSESSMENT	NO EXAMS	

265.270. RECOMMENDED LITERATURE

SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT

NEPHROLOGY DEPARTMENT

Address University Hospital of Patras, 4th floor- Tel: (0030)2613-603361-362, FAX: (0030)2610-994424
Email: nephdept@upatras.gr, dgoumenos@upatras.gr

Staff of Nephrology Department

Professor Dimitrios S. Goumenos

Assistant Professor Evaggelos C. Papachristou

Special Laboratory
Technical Staff Chrysa Bogdanopoulou

D.S. Goumenos, Professor in Internal Medicine – Nephrology, Head of the Department, email: dgoumenos@upatras.gr

E.Papachristou, Assistant Professor in Internal Medicine – Nephrology, email: epapachr@upatras.gr

Teaching is performed through lectures in the auditorium, while for a few days the students visit in groups the nephrology clinic where interesting cases are presented and discussed.

Learning objectives:

COURSE OUTLINE

271. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_1162	SEMESTER OF STUDIES	11 th and 12 th (optional)
COURSE TITLE	NEPHROLOGY - CLINICAL TRAINING		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		35	4
COURSE TYPE	Skills development, Scientific area		
PREREQUISITE COURSES:			

TEACHING AND ASSESSMENT LANGUAGE:	Greek and English (optional)
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBPAGE (URL)	

272. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>Students during their stay attend clinical training classes in the Renal Centre.</p> <p>Learning objectives:</p> <ul style="list-style-type: none"> • Active participation of students in the daily program of the Nephrology Department and enhancement of their ability in history taking and clinical examination on patients with nephrological problems during daily visit with physicians in Clinic. • On patient practice. • Practice and acquaintance with renal replacement methods (dialysis or peritoneal dialysis). • Discussion of interesting cases. • Clinical scenarios with nephrological interest. Differential diagnosis and treatment of patients with nephrological problems. • Attendance of postgraduate courses.
General Abilities

Search, analyze and synthesize data and information, using the necessary technologies

Decision making

Autonomous work

Teamwork

273. COURSE CONTENT

Active participation of students in the daily schedule of the Nephrology Clinic (medical history taking, physical examination, daily visits with physicians in clinics).

Training next to the hospitalized patients. In the clinic are hospitalized patients suffering from:

- Water and electrolytes disorders
- Acid-base balance disorders.
- Arterial hypertension.
- Acute renal failure.
- Diseases of the glomerulus (glomerulonephritis).
- Diabetes mellitus and kidney damage.
- Systemic diseases with renal involvement.
- Kidney transplantation.

- Vascular problems in Haemodialysis.
- Problems in peritoneal dialysis.
- Students are also trained in the basic principles of methods of renal function replacement (haemodialysis and peritoneal dialysis)

274. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face, Clinical training	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Practical and Clinical Exercise Focusing on the Application of Methodologies in the Diagnosis and Treatment of Patients with Nephrology Problems in Small Groups of Students	35
	Study and analysis of literature	20
	Writing assignment	10
	Self study	20
STUDENT ASSESMENT	<ul style="list-style-type: none"> • Students deliver a writing assignment on a specific issue (eg: 	

	acute kidney injury, nephrotic syndrome).
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275. RECOMMENDED LITERATURE

<ul style="list-style-type: none"> Harrison's Nephrology and Acid-Base Disorders, 1st Edition, J. Larry Jameson, Joseph Loscalzo.

COURSE OUTLINE

276. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_661	SEMESTER OF STUDIES	6 th (mandatory)
COURSE TITLE	URINARY TRACT SYSTEM (Integration I)		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		25	4
COURSE TYPE	Background, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	

277. LEARNING OUTCOMES

<p>Lerning outcomes</p> <ul style="list-style-type: none"> • <p>Teaching is performed through lectures in the auditorium, while for a few days the students visit in groups the nephrology clinic where interesting cases are presented and discussed.</p> <p>Learning objectives:</p> <p>Students are taught all aspects of clinical nephrology. Special attention is specifically given to certain topics and with the successful completion of the course, the student will be able to describe the following</p> <ul style="list-style-type: none"> • Physiology of kidney function: glomerular filtration, urinary tubules functions, urine concentration and dilution mechanisms. • Urinary tract anatomy (kidneys, ureters, bladder) • Histology of renal tissue: glomerulus, urinary tubules, interstitial space. • Basic principles of clearance of substances - glomerular filtration rate calculation • General findings in urinalysis. Findings in urinary sediment <ul style="list-style-type: none"> • Haematuria • Albuminuria • Nephrotic syndrome • Nephritic syndrome
--

- Mixed syndromes
- Body Acid-base balance and mechanisms of its conservation (body normal pH, importance of pH changes, daily production of hydrogen ions from metabolism). Description of the regulatory systems that contribute to the maintenance of acid-base balance. (Extracellular space: bicarbonate system, proteins) (intracellular space: intracellular proteins, hemoglobin, phosphates).
- Recognition of the role of the kidneys in maintaining acid-base balance. (Urinary tubules: elimination of hydrogen ions, bicarbonate ions and reabsorption of bicarbonate, renewal system in the circulation).
- recognition of the role of the lungs to maintain the acid-base balance. (Lungs: elimination of carbon dioxide (CO₂) which is formed in the circulation as a result of the hydrogen ion binding of bicarbonate ions to maintain the pH constant).
- Definition of decompensated and non decompensated metabolic disorders (acidosis or alkalosis).
- Mechanisms of decompensation of acid-base balance disorders. (Metabolic disorders: decompensation of the respiratory system, eg, tachypnea in acidosis) (respiratory disorders: decompensation of kidney).
- Diagnosis and differential diagnosis of the causes of metabolic acidosis or alkalosis (blood gases, determination of anion gap).
- Treatment of the acid-base balance disorders.
- Mechanisms responsible for maintaining the balance of potassium, sodium, calcium, magnesium, phosphorus organism and factors affecting them (acid-base equilibrium, insulin, aldosterone, antidiuretic hormone, parathyroid hormone).
- Recognition of clinical signs related to potassium, sodium, calcium, magnesium and phosphorus disorders.
- Causes that are responsible for causing electrolyte imbalances and search for those causes by taking a

detailed history.

- Treatment of patients with electrolyte imbalances, in particular those with hypo- or hyperkalemia, hypo- or hypernatremia and hypo- or hypercalcemia.
- Identification of the cause, the diagnostic approach and treatment of glomerular diseases constitute a major objective of the training program
- Clinical syndromes of glomerular diseases (nephritic - nephrotic - mixed)
- Idiopathic glomerulonephritides
- Secondary glomerulonephritides
- Definition of acute kidney injury (AKI)
- Pathogenesis, predisposing factors and incidence of acute kidney injury.
- Causes and differential diagnosis of the causes of acute kidney injury: Recognition of prerenal, intrinsic and postrenal causes of AKI from history taking, physical examination and laboratory and imaging evaluation (biochemical blood tests and urinalysis, urinary tract ultrasound, etc.).
- Complications of acute kidney injury
- Treatment of acute kidney injury: Basic principles of treatment of AKI due to prerenal, intrinsic and postrenal causes. Indications for renal replacement therapy.
- Staging - impact - etiology - clinical picture - treatment of Chronic Kidney Disease.
- Definitions and classification of Hypertension. Pathophysiology - clinical manifestations - patient investigation - treatment of hypertension (conservative - pharmaceutical). Secondary forms of hypertension.
- Dialysis methods (Hemodialysis)

- Peritoneal Dialysis
- Kidney Transplantation

General Abilities

278. COURSE CONTENT

- **Anatomy - physiology of the urinary system**
- **Clinical syndromes of renal diseases**
- **Acid-base balance disorders**
- **Water and electrolytes disorders**
- **Glomerular diseases**
- **Acute kidney injury**
- **Chronic kidney disease**
- **Hypertension**
- **Diabetes and kidney**
- **Systemic diseases and kidney**
- **Renal replacement therapy**

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279. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Teaching is performed through lectures in the auditorium, while for a few days the students visit in groups the nephrology clinic where interesting cases are presented and discussed.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support Learning through the e-class e-class platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	35
	Studying	42
STUDENT ASSESSEMNT	Written final exam (100%) including: <ul style="list-style-type: none"> - Multiple choice questions (50%) - Analysis of pathophysiological mechanisms, clinical picture, diagnosis and treatment of renal disease entities. 	

280. RECOMMENDED LITERATURE

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Harrison's Nephrology and Acid-Base Disorders, 1st Edition, J. Larry Jameson, Joseph Loscalzo.

COURSE OUTLINE

266. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_1162	SEMESTER OF STUDIES	11 th and 12 th (optional)
COURSE TITLE	NEPHROLOGY - CLINICAL TRAINING		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		35	4
COURSE TYPE	Skills development, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English (optional)		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)		

267. LEARNING OUTCOMES

Learning outcomes

-

Students during their stay attend clinical training classes in the Renal Centre.

Learning objectives:

- Active participation of students in the daily program of the Nephrology Department and enhancement of their ability in history taking and clinical examination on patients with nephrological problems during daily visit with physicians in Clinic.
- On patient practice.
- Practice and acquaintance with renal replacement methods (dialysis or peritoneal dialysis).
- Discussion of interesting cases.

- Clinical scenarios with nephrological interest. Differential diagnosis and treatment of patients with nephrological problems.
- Attendance of postgraduate courses.

General Abilities

Search, analyze and synthesize data and information, using the necessary technologies
Decision making
Autonomous work

268. COURSE CONTENT

Active participation of students in the daily schedule of the Nephrology Clinic (medical history taking, physical examination, daily visits with physicians in clinics).

Training next to the hospitalized patients. In the clinic are hospitalized patients suffering from:

- Water and electrolytes disorders
- Acid-base balance disorders.
- Arterial hypertension.
- Acute renal failure.
- Diseases of the glomerulus (glomerulonephritis).
- Diabetes mellitus and kidney damage.
- Systemic diseases with renal involvement.
- Kidney transplantation.
- Vascular problems in Haemodialysis.
- Problems in peritoneal dialysis.

- Students are also trained in the basic principles of methods of renal function replacement (haemodialysis and peritoneal dialysis)

269. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face, Clinical training	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Practical and Clinical Exercise Focusing on the Application of Methodologies in the Diagnosis and Treatment of Patients with Nephrology Problems in Small Groups of Students	35
	Study and analysis of literature	20
	Writing assignment	10
	Self study	20
STUDENT ASSESSEMNT	<ul style="list-style-type: none"> • Students deliver a writing assignment on a specific issue (eg: acute kidney injury, nephrotic syndrome). 	

270. RECOMMENDED LITERATURE

- Harrison's Nephrology and Acid-Base Disorders, 1st Edition, J. Larry Jameson, Joseph Loscalzo.

DIVISION OF INTERNAL MEDICINE II

DEPARTMENT OF NEUROLOGY

Address University Hospital of Patras, 4th floor.
Tel. 2610-993949, 2610-999570-1, Fax: 2610-993949.

CLINIC STAFF

Director Professor Panagiotis Papathanasopoulos

Professors Elisabeth Chroni

Associate Professors P. Polychronopoulos, John Elloul

Assistant Professors -

Lecturers -

Supporting research and -

Technical Staff *Part of Integration II

NEUROLOGY - CLINICAL 5th Year, 11th and 12th Semester (mandatory).

TRAINING

Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

ECTS Units 8

Teachers P. Papathanasopoulos, E. Chroni, P. Polychronopoulos, J. Elloul, D. Konstantinou, G. Gkazounis, C. Constantoyiannis, V. Panagiotopoulos.

Description

COURSE OUTLINE

271.281. GENERAL

SCHOOL	OF HEALTH SCIENCES		
DEPARTMENT	OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED 961	SEMESTER OF STUDIES	9 th or- 10 th
COURSE TITLE	Neurology - Neurosurgery		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	5	
	Clinical practice	30	
			8
COURSE TYPE	Field of science		
PREREQUISITE COURSES:	No		
TEACHING AND ASSESSMENT LANGUAGE:	Greek (or English)		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	-

272.282. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>The main goal of student training in the neurological department is the implementation of theoretical knowledge in diagnosis and treatment of diseases of the central and peripheral nervous system and the muscles.</p> <p>From the first day, an effort is made for the students to attend and participate in all clinical activities together with the medical staff. There is a morning briefing where the new admissions from the out-patient clinic and ER are discussed. Next, there is a visit of in-patients, during which a detailed history for each patient is presented and the clinical signs, laboratory investigations, the potential diagnosis and the therapeutic possibilities (if any) are discussed. From the 2nd week students are encouraged to take the history and perform clinical examination under supervision in a new patient and then to present it to the doctors' meeting prior to the ward round.</p> <p>Students are divided in small subgroups of 3-4, in order to attend the out-patient clinics (general neurology or specific such as neuromuscular diseases), which are performed 3 times a week, as well as the examination in the electromyography and electroencephalography laboratories. Students should also attend, at least once, a shift in the ER (duration 5-6 hours).</p> <p>Short lectures (45 minutes) on topics of clinical interest are given 4 times a week by</p>

university faculty and national health system members and residents in neurology. For example the examination of motor system, of cranial nerves, of mental function, of extrapyramidal syndromes, is analyzed. Particular attention is paid to the correct use of test organs (neurological hammer, vibration tune) and the details of clinical tests (such as Barre, Romberg) and sings (babinski).

Demonstration of special procedures such as lumbar puncture (CSF test) is performed. Finally, students are welcome to attend lectures for trainees in neurology such as the weekly neuro-radiological meetings.

General Abilities

By the end of this course the student will be able to:

- Handle acute or chronic cases of neurological diseases
- Record a full medical history
- Perform a complete neurological examination
- Participate in discussion of differential diagnosis of the most common neurological diseases/ syndromes
- Evaluate laboratory results in the context of a particular clinical phenotype
- Recognize the clinical symptoms, signs, the natural course and treatment of conditions such as stroke, epilepsy, polyneuropathy, Parkinson's disease, myasthenia
- Develop a professional attitude toward the patients and explain to them in an understandable way their condition and the potential outcomes

273.283. COURSE CONTENT

1. Neurological terminology
2. Obtain a medical history
3. Neurological detailed examination. In particular, examination of comatose patients, patient cranial nerve lesions, impairment of gait and stance, mental function impairment, episodic

consciousness.

4. Clinical manifestations of epilepsy, Parkinson and other extrapyramidal diseases, stroke, multiple sclerosis, neuromuscular diseases (including myasthenia) and of any rare diseases (if such cases exist in the clinic at the time)
5. Demonstration of procedure at the bedside
6. Patients in the ER (stroke/thrombolysis, syndrome Guillain Barre, acute severe headache, acute paraparesis)
7. Out-patient clinic – write a prescription
8. Basic principles of electroencephalography - electromyography

274.284. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Small group teaching, performing clinical examination of patient under supervision	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Short lectures with the use of PowerPoint Search for new information in dedicated scientific sites on the internet	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας
	<i>Participation in activities of the neurological department</i>	120 : 120

	Clinical practice	30
	Lectures	15
	<i>Private study</i>	50
	<i>Total hours for the course</i>	<i>200</i>
STUDENT ASSESSEMNT	<p>At the end of the training, the students have to pass an oral examination on the clinical skills/knowledge and patients' management. Their overall involvement in the clinical activities is co-assessed in the final grade. If a student is not able to have the test at the defined day, the exam may be postponed by 4 weeks so that they can be examined together with the students of the next group. If a student failed twice the final exam, they have to repeat all or part of the 3-week training.</p>	

275.285. RECOMMENDED LITERATURE

1. NEXT SUMMARY OF NEUROLOGY

AUTHORS: MISULIS-HEAD

Scientific Editing: Panag. Papathanassopoulos

PUBLICATION: 2011

ISBN: 978-960-94-2717-3

CODE. EYΔOEOY: 13255867

Publisher: Gotsis Konstantinos & Co.

2. NEUROLOGY

AUTHOR: Neumann Masuhr

Editor: Nikos Vlaikidis
 ISBN: 978-960-6894-06-0
 KOD. EYDOXOU: 3593
 Pages: 600
 Publisher: Rotonda

COURSE OUTLINE

276.286. GENERAL

SCHOOL	Medicine		
DEPARTMENT	Neurology		
LEVEL OF COURSE	Undergraduate		
COURSE CODE		SEMESTER OF STUDIES	11 or 12
COURSE TITLE	Clinical Neurophysiology		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Teaching courses	5		
Clinical practice	30	4	

COURSE TYPE	Field of Science
PREREQUISITE COURSES:	Not required
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	-

Leraning outcomes

•

The Workshop in clinical neurophysiology aims to provide some experience to medical students regarding current techniques of neurophysiological examinations for peripheral and central nervous system diseases.

Following morning briefing, in which all new neurological admissions are discussed, the professor responsible for this course (either E Chroni or P Polychronopoulos) will be giving a short lecture (30-45 minutes in duration) about basic principles and main clinical applications of the tests performed in the neurophysiology lab.

Subsequently, the students will attend the out-patient clinic of the lab which includes appointments of patients with varied conditions of the nerve, muscle or the brain. This activity will take aprox 4 hours. The last 2 hour of each day will be devoted to discussion about previous tests, Q&As, instructions for further study at home and information about current research projects.

Students will have the opportunity to learn basic techniques (hands on), like nerve conduction studies, electrodes placement for electroencephalography. Performing of certain tests for patients under close supervision will also be possible depending on the skills and interests of the students.

The maximum number of students per group is six. They will be divided into 2 sub-groups, during the first week, 1 sub-group will start with electroneurography and the other with

electroencephalography. The second week the 2 sub-groups will switch over.

Responsible for electroneurography-electromyography will be three experienced electrodiagnosticians, E. Chroni, E. Terzis, D. Veltsista. For electroencephalography and evoked potentials responsible will be P. Polychronopoulos.

Demonstration of all available techniques, including evoked potentials, transcranial magnetic stimulation, single-fiber EMG, autonomic nervous system tests, will be done.

In the electroencephalography lab, Prof P Polychronopoulos will display in a noon session (12:00-14:00) interesting samples of recordings from his personal archive.

Issues regarding differential diagnosis, analysis and interpretation of the results will be emphasized.

General Abilities

Following successful completion of this course, the student will be able to:

Understand the basic principles of neurophysiological examination in clinical practice

Learn the common causes of referral for neurophysiology

Recognize the applications of each examination, its contribution, its advantages and drawbacks

Evaluate the results/measurements of different tests

Obtain abilities which will enable them to attend and comprehend lectures /seminars on clinical neurophysiology issues

Develop research interest on current neurophysiological topics.

278.288. COURSE CONTENT

Clinical approach of patient referred to neurophysiology lab

Definition of appropriate test- profile for each particular case (based on history and clinical information)

Nerve conduction studies

Electromyography

Autonomic nervous system testing

Transcranial magnetic stimulation

Interpretations of electroneurography/electromyography

Basic electroencephalographic recording

Epilepticform discharges and normal deviations

Electroencephalogram and generalized epilepsies

Electroencephalogram and focal epilepsies

Electroencephalogram and Status Epilepticus

Electroencephalogram and sleep

Electroencephalogram and encephalopathies

Electroencephalogram and central nervous system infections

Evoked potentials

279.289. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Small group teaching Workshop
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Power point slides (available in e-class)

	All equipments of the neurophysiological laboratory are based on soft-ware programs of PC.	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Small group teaching	10
	Attendance of routine neurophysiological testing session	30
	Performance under supervision of standard neurophysiological examinations	30
	Homework	20 hours further
	<i>Total number of hours for the Course</i>	70
STUDENT ASSESSMENT	No formal assessment will be performed at the end of this course. Grade will be based on constant evaluation during the 2-week course regarding theoretical background, practical skills, expression of interest, comments and participation in debates.	

280.290. RECOMMENDED LITERATURE

281.291. - *Electrodiagnosis in Diseases of Nerve and Muscle* - Amazon.com, 4th edition by
Jun Kimura

282.292.

- *Neidermeyer's EEG : Basic Principles Clinical Applications and Related Fields*, 6th edition-
Amazon.com

COURSE OUTLINE

293. GENERAL

SCHOOL	Medicine		
DEPARTMENT	Neurology		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_881	SEMESTER OF STUDIES	8
COURSE TITLE	Geriatric Medicine and Gerontology		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Teaching courses	16	4	
Clinical practice	8		
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	Not required		
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	-		

294. LEARNING OUTCOMES

Learning outcomes

•

Students should have a good knowledge of:

- Emergency care of older patients
- Management of Geriatric syndromes
- Management of polypharmacy and drug related issues in older age
- Elements of rehabilitation in elderly with functional impairment due to acute comorbidities
- Care of the frail in the community
- The clinician in the multidisciplinary team for the older people care

General Abilities

Following successful completion of this course, the student will be proficient to:

- Basic elements of Geriatric Medicine and Gerontology, as well as having a good knowledge how to manage the needs of older people either in hospital or in the community

295. COURSE CONTENT

The undergraduate students of Geriatric Medicine should learn:

- The biochemical, molecular, cellular, psychosocial theories of ageing
- Anatomical and histological changes with ageing
- The etiopathogenesis of normal ageing, as well as the changes which lead to the disease in older age
- Atypical, non-specific, presentation of the disease in older age
- Evidence based medicine and guidelines related to the old and very old
- To describe the pathophysiology, diagnosis, work out and management of the common geriatric syndromes, such as
 - chronic pain
 - dementia
 - delirium
 - neglect and abuse in older age
 - falls and walking difficulties
 - hearing and visual impairment

- malnutrition and sarcopenia
 - pressure sores
 - incontinence
 - frailty
- Pharmacodynamics and pharmacokinetics in older age
 - Compliance to treatment in older people
 - Comprehensive clinical assessment

296. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Group teaching	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Power point slides	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Teaching	16
	Practice in the ward	8
	Homework	20
	<i>Total number of hours for the Course</i>	<i>44</i>

STUDENT ASSESSMENT	<p>Students evaluation will be carried out during tuition and will be based upon interaction with the tutor and discussion of clinical cases. Abilities to carry out a geriatric clinical assessment will be evaluated.</p> <p>No final examination will be required</p>
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297. RECOMMENDED LITERATURE

- **MERCK - ΕΓΧΕΙΡΙΔΙΟ ΓΗΡΙΑΤΡΙΚΗΣ, BERKOW ROBERT, BEER H. MARK**
- **- Brocklehurst's Textbook of Geriatric Medicine and Gerontology, 8th Edition**

DEPARTMENT OF NEUROLOGY

Address University Hospital of Patras, 4th floor.
Tel. 2610-993949, 2610-999570-1, Fax: 2610-993949.

CLINIC STAFF

Director Professor Panagiotis Papathanasopoulos

Professors Elisabeth Chroni

Associate Professors P. Polyxronopoulos, John Elloul

Assistant Professors -

Lecturers -

**Supporting research and
Technical Staff** -

***Part of Integration II**

**NEUROLOGY - CLINICAL
TRAINING** 5th Year, 11th and 12th Semester (mandatory).

Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

ECTS Units 8

Teachers P. Papathanasopoulos, E. Chroni, P. Polyxronopoulos, J. Elloul, D. Konstantinou, C. Constantoyiannis.

Description

- a) Complete physical examination of the Nervous System and evaluation of pathological findings.
- b) Familiarization of the students with regular neurological diseases (vascular stroke, Parkinson's, epilepsy, muscular diseases, multiple sclerosis, etc.) and with special "neurological" tests and Neurology emergencies.

On the last day of the second month students are orally examined to determine whether they are able to examine a patient with neurological problems and evaluate any neurological finding. At failure they repeat one, two or three weeks of the clinical training and they are examined again.

- Neurosurgery curriculum**
- A. Patients with hemiparesis
 - 1. Convincing spinal cord damage
 - B. Patients with consciousness disorder
 - 1. Introduction – waking consciousness disorders
 - 2. Intracranial hypertension – intracranial tumours
 - 3. Subarachnoid bleeding (Aneurysm – vasculature)
 - Γ. Patients with motor disorders
 - 1. Surgical treatment of extrapyramidal diseases.
- Trauma lessons
- 1. Head trauma
 - 2. Intracranial hypertension – Traumatic Brain Injury

DEPARTMENT OF PSYCHIATRY

Address University Hospital of Patras, 1st building, ground floor, Tel. 2613-603245, Fax: 2610-994534, e-mail: psychdpt@med.upatras.gr.

Director **Professor Philippos Gourzis**

Professors Philippos Gourzis, Konstantinos Assimakopoulos

Associate Professors Konstantinos Assimakopoulos

Assistant Professors Panos Alexopoulos Aggeliki Katrivanou

Lecturers Panos Alexopoulos

Supporting research and Ourania Andreopoulou

Technical Staff Maria Antoniou

PSYCHIATRY - CLINICAL TRAINING 5th Year, 9th and 10th Semester (mandatory)

Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

ECTS Units 8

Teachers P. Gourzis, K. Assimakopoulos, A. Katrivanou, P. Alexopoulos, O. Andreopoulou

Description

COURSE OUTLINE

283.298. GENERAL

ΣΧΟΛΗ	OF HEALTH SCIENCES		
ΤΜΗΜΑ	OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED 951	ΕΞΑΜΗΝΟ ΣΠΟΥΔΩΝ	9 th or- 10 th
COURSE TITLE	Psychiatry		

INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures		5	
Clinical practice		30	
			8
COURSE TYPE	Field of science		
PREREQUISITE COURSES:	No		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes in Greek		
COURSE WEBPAGE (URL)	-		

284.299. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none"> • <p>The primary aim of undergraduate students' training in Psychiatric Clinic is the clinical application of psychiatric and psychotherapy knowledge for diagnosis and confrontation of psychiatric disorders. Students within the frame of clinical training are trained in psychiatric examination and assessment of the findings. Moreover, students get familiar with the most common psychiatric disorders and have to follow, at least once the regular outpatient psychiatric clinics of adults and child/adolescents, clinical examination during interdisciplinary psychiatry/counseling and group psychotherapy sessions. Furthermore, they should participate for 6 hours in at least 3 "open" on-call duty taking part in the</p>

examination of urgent psychiatric incidents. Four times per week professors, consultant and specialist clinicians give 45-minute lectures related to the most common psychiatric disorders (schizophrenia, bipolar disorders, depression, anxiety disorders, urgent psychiatry, child/adolescent psychiatry, clinician-patient relationship, health psychology, introduction to cognitive psychotherapy, psycho-education).

General Abilities

By the end of this course the student will be able to:

- Handle acute or chronic cases of psychiatric disorders
- Record a full medical history
- Perform a complete psychiatric examination
- Participate in discussion of differential diagnosis of the most common psychiatric disorders
- Evaluate laboratory results in the context of a particular clinical phenotype
- Recognize the clinical symptoms, signs, the natural course, and treatment of conditions such as neurocognitive disorders, disorders associated with the use of psychoactive substances, schizophrenia and related disorders, emotional disorders, anxiety and related disorders, psychosomatic disorders, personality disorders
- Develop a professional attitude toward the patients and their caregivers and explain to them in an understandable way their condition and the potential outcomes

285.300. COURSE CONTENT

1. Repetition of psychiatric and psychotherapeutical terminology
2. Obtain a medical history
3. Clinical psychiatric examination
4. Clinical manifestations of neurocognitive disorders, disorders associated with the use of psychoactive substances, schizophrenia and related disorders, emotional disorders, anxiety and related disorders, psychosomatic disorders, personality disorders, and their complications
5. Psychiatric patients in the ER
6. Liaison psychiatry
7. Group therapies (e.g. occupational therapy, psychotherapy)
8. Psychosocial rehabilitation interventions
9. Out-patient clinic – write a prescription

286.301. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Small group teaching, performing clinical examination of patients under supervision
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Short lectures with the use of PowerPoint Search for new information in dedicated scientific sites on the Internet

-recommended scientific journals:

General hospital psychiatry

Schizophrenia bulletin

American journal of psychiatry

Affective disorders

Alzheimer's and dementia

Psychosomatic medicine

COURSE OUTLINE

303. GENERAL

SCHOOL	Health science		
SEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_884	SEMESTER OF STUDIES	8 th
COURSE TITLE	Neuropsychiatry		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	lectures	2	5
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	No		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in Greek language)		
COURSE WEBPAGE (URL)			

304.LEARNING OUTCOMES

Leraning outcomes

- Neuropsychiatry is an evolving science dedicated to understanding the behavioral consequences of brain dysfunction and their use to improve patient care. The development of neuropsychiatry is driven by the aging of the population and the resulting neuropsychiatric morbidity, the rapid improvement of neuroimaging techniques, the emergence of new therapies and the significant development of neurosciences, with a possible application to understanding the neurobiological basis of human behavior. The psychiatric image of structural or neurophysiological brain disorders due to systemic diseases affecting the brain is rarely specific to the type of underlying pathology but is more affected by the area of the brain involved and the course of the disease. Usually, the clinical picture appears as a change in personality and behavior as cognitive decline and emotional states, emotional disturbances and/or psychoses. The aim of the course is to bring together and understand the range of systemic illnesses with psychiatric symptomatology, to teach the diagnostic techniques and the basic principles of therapeutic approaches.

General Abilities

By the end of this course the student will be able to:

- Understand the basic neuropsychiatric terminology
- Obtain the neuropsychiatric examination in a theoretical level
- Be aware of the categories of neuropsychiatric disorders
- Understand the differences and similarities of neuropsychiatric and psychiatric disorders
- Be aware of the basic neuropsychiatric assessment
- Develop skills concerning differential diagnosis of neuropsychiatric and psychiatric disorders
- Acquire the up-to-date knowledge necessary for the development of novel research ideas

305. COURSE CONTENT

1. Basic concepts of neuropsychiatry
2. Clinical evaluation
3. Neuropsychiatric Symptoms and Syndromes
4. Traumatic brain injury
5. Brain tumors
6. Epilepsy
7. Intracranial infections
8. Vascular brain disorders
9. Alzheimer's and other dementias
10. Endocrine and metabolic disorders
11. Drug use disorders and intoxication disorders
12. Kinetic disorders
13. Sleep Disorders
14. Other disorders of the nervous system

306. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Teaching in classroom
USE OF INFORMATION AND	Lectures with the use of PowerPoint slides to highlight the important points.

COMMUNICATION TECHNOLOGIES	Presentations are available in e-class.	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	28
	Hours of private study	28
	<i>Total number of hours for the Course</i>	<i>56</i>
STUDENT ASSESSMENT	Students' assessment is oral, after arrangement with Professors. Assessment language is Greek.	

307.RECOMMENDED LITERATURE

-Recommended literature

TITLE: “Neuropsychiatry and behavioral neurology”, **AUTHORS:** Jeffrey Cummings, Michael Trimble, BITA Publications

-Recommended scientific journals

- Neuropsychiatry
- The Journal of Neuropsychiatry & Clinical Neurosciences

Address University Hospital of Patras, 1st building, ground floor, Tel. 2610-994534, 2610-992996, 2610-999245, Fax: 2610-994534, e-mail: psychdpt@med.upatras.gr.

Director **Associate Professor Philippos Gourzis**

Professors -

Associate Professors -

Assistant Professors Konstantinos Assimakopoulos, Aggeliki Katrivanou

Lecturers

Supporting research and Eleni Vouga

Technical Staff

***Part of Integration I and II and of the course «Bioethics» in the 3rd year**

PSYCHOLOGY - CLINICAL TRAINING 5th Year, 9th and 10th Semester (mandatory)

Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

ECTS Units 8

Teachers P. Gourzis, A. Katrivanou, K. Assimakopoulos.

Description

Students are trained in the full psychiatric interview and evaluation of the findings. Additionally they are getting familiar with the most common psychiatric disorders such as schizophrenia, mood disorders, personality disorders associated with abuse / dependence of alcohol and psychoactive substances etc.

Students often attend external adults and children / adolescents' psychiatric clinic, interviews during the course of liaison / counseling, group therapy sessions and diagnostic and therapeutic approaches to medical emergency.

Every student monitors a patient with the attending physician and is able at the end of the training to understand and describe the basic symptoms, differential diagnosis, the course and prognosis and the therapeutic treatments of the disease.

In the same time students attend courses, tailored to their level of education, as for the most common manifestations of psychiatric disorders (schizophrenia, bipolar disorder, anxiety disorders, emergency psychiatry, child psychiatry elements, and physician – patient relationship).
At the end of each workshop, students are orally examined in the historical and theoretical background of the disease of the patient they attended.

DEPARTMENT OF DERMATOLOGY

Address University Hospital of Patras, 4th floor, Tel. 2610-994670, Fax: 2610-993951.
CLINIC STAFF
Director **Associate Professor Sofia Georgiou**
Associate Professor Sofia Georgiou, Efstathia Pasmazi
Assistant Professor -
Lecturers ***Part of Integration I**

**DERMATOLOGY-
CLINICAL TRAINING**
Hours 6th Year, 11th and 12th Semester (optional).
ECTSUnits Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35.
Teachers 4
S. Georgiou, E. Pasmazi.

Description

COURSE OUTLINE

288.308. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICAL		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED1157	SEMESTER OF STUDIES	11thELEVENTH -- TWELFTH12th (ELECTIVE)
COURSE TITLE	CLINICAL DERMATOLOGY ELECTIVE		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, seminars and laboratory work	35	42	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	Basic principles of dermatology		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)			

1. LEARNING OUTCOMES

Learning outcomes

-

By the end of the Clinical Dermatology Elective, the student will be able to:

1. Obtain a relevant dermatologic history
2. Perform physical examination of the integumentary system
3. Describe accurately morphology of lesions and eruptions on patients
4. Diagnose common and important cutaneous disorders and sexually transmitted diseases
5. Demonstrate familiarity with common diagnostic procedures (immunopathology, molecular biology, medical engineering, photobiology, and allergology)
6. Demonstrate knowledge of basic principles and application of topical and systemic therapy of cutaneous and sexually transmitted diseases.

General Abilities

Autonomous (Independent) work

2. COURSE CONTENT

Supervised participation in clinical activities, both inpatient and outpatient, and all scheduled lecture: Department of Dermatology.

Students participate in ward rounds, bedside teaching and case presentations, outpatient clinic, evalu

laboratory tests, instruction in the invasive and non invasive methods of diagnosis and treatment of skin diseases.

3. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Bedside clinical examination and lectures face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (teaching. The lectures content of the course for each chapter the form of a series of slides.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Ερ</i>
	Bedside clinical examination and lectures (35 conduct hours per week x 2 week)	
	<i>Total number of hours for the Course 35 hours of work-load per ECTS credit)</i>	
STUDENT ASSESSEMNT	Oral examination after the end of the Clinical Dermatology E	

4. RECOMMENDED LITERATURE

18.8. Dermatology Essentials, Bologna & Schaeffer, Eds. Paschalidis

19.9. Dermatology, Lecture Notes, Robin Graham-Brown-Tony Burns. Eds. Parisianou

Address University Hospital of Patras, 4th floor, Tel. 2610-994670, Fax: 2610-993951.

CLINIC STAFF

Director

Professor Dionysios Tsambaos

Associate Professor

Sofia Georgiou, Alexandra Monastirli, Efstathia Pasmatz

Assistant Professor

-

Lecturers

***Part of Integration I**

**DERMATOLOGY-
CLINICAL TRAINING**

6th Year, 11th and 12th Semester (optional).

Hours

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35.

ECTSUnits

4

Teachers

D. Tsambaos, S. Georgiou, A. Monastirli, E. Pasmatz.

Description

- 1) Learning how to take dermatological history and how to do physical examination of the skin and its components.
- 2) Recognition of elementary skin lesions and understanding of their pathogenetic mechanisms.
- 3) Familiarity with the clinical picture of dermatologically and sexually transmitted diseases and their treatment.
- 4) Update on the basic principles of modern diagnostic techniques in immunohistopathology, molecular biology, immunology, biomechanics, photobiology and allergology of the skin.

On the last day of the exercise the students take exams, which will include practical (at bedside) and theoretical part.

DIVISION OF SURGERY

DEPARTMENT OF SURGERY

Address University Hospital of Patras, 2nd floor
Tel 2610-999299, 2610999323, Fax: 2610-993984

CLINIC STAFF

Director Professor Konstantinos Panagopoulos

Professors

Associate Professors Ioannis Maroulis, John Kechagias,

Assistant Professors George Skroubis

Lecturers

**Supporting research and
Technical Staff**

***Part of Integration I και II and of the course «Bioethics» in the 3rd year**

5th Year, 9th and 10th Semester (mandatory).

SURGERY -CLINICAL TRAINING Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week- 8 weeks).

Hours 14

J. Tsolakis, K. Panagopoulos, S. Kakkos, G. Skroubis, I. Maroulis, J. Kechagias, I. Panagiotopoulos, M. Tillianakis, P. Megas, F. Fligkou.

ECTS Units

Teachers

COURSE OUTLINE

309. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	FACULTY OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_931	SEMESTER OF STUDIES	9 th and 10 th
COURSE TITLE	Surgery		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
LECTURES - ON BED TRAINING - OR PARTICIPATION	35/week, 4 weeks	14	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be performed in English, in case foreign students attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)		
COURSE WEBPAGE (URL)			

310. LEARNING OUTCOMES

Learning outcomes

-

The main goal during the clinical practice of a fifth year medical student, is to gain the confidence to take on and handle the procedure of identification and cross examination of a surgical problem. The practical application of the achievement of this goal, which will signify the peak of a student's undergraduate surgical training, will be the responsibility one gains to perform as an auxiliary during his sixth year clinical practice. The achievement of this goal is a two-way process and it is based both on the effort of the trainer as of the trainee. The trainer is academically obliged to help the student to become competent in managing scientifically and responsibly a patient's issue. This procedure constitutes of interactive lectures taking place in small groups, that refer to the most common surgical issues (diagnostic approach, differential diagnosis and therapeutic approach is taught), as well as in the application of all mentioned above, in clinical practice, on patients hospitalised in the surgical ward. The procedure of this two-way effort in training for the achievement of the mentioned goal is based on a specific educational program which will comprise of theory and practice.

General Abilities

Search, analysis and synthesis of data with the use of appropriate technologies
Decision making
Working alone and as part of a team
Participation in Surgery

311. COURSE CONTENT

Upper and Lower GI bleeding
 Fluid – Electrolyte balance
 Intestinal obstruction
 Colon cancer
 HPB cancer
 Goiter investigation
 Surgical treatment of morbid obesity, of diabetes type 2, and Metabolic syndrome
 Jaundice
 Acute abdomen
 Breast lump investigation
 Hypovolemic shock
 Embolism – Thrombosis
 Acute pancreatitis
 Transplants

312. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face, e-class.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of I.C.T (eg Powerpoint) in teaching. The lectures are uploaded on the Internet (e-class).	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Ward rounds	60

	Lectures	30
	Surgical cases presentation	20
	Participation on call duties	40
	Total number of hours for the Course	150
STUDENT ASSESSMENT	Written assessment	
	Minimum passing grade: 5	

313. RECOMMENDED LITERATURE

D. Voros, Surgery, 2 nd edition, Parisianou A.E. 2014
E-class notes

COURSE OUTLINE

314. GENERAL

SCHOOL	Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate (Basic)		
COURSE CODE		SEMESTER OF STUDIES	5 th Year (9 th -10 th semester)
COURSE TITLE	Intensive Care Medicine		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS

Lectures	10	150
Participation in educational clinical visits	5	75
Clinical Exercise (ICU and Anesthesiology)	5	75
Study and analysis of bibliography, writing of scientific papers	1	15
	21 hours (total)	315
COURSE TYPE	Scientific Area	
PREREQUISITE COURSES:	No	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBPAGE (URL)	https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2POSJE7XgRa?dl=0	

315. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •
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Course Objectives:

Knowledge, understanding, implementation, synthesis and evaluation of intensive care and emergency medicine issues.

In the intensive care course, the above goals are summarized in 3 categories

1. - **Knowledge** of intensive care and emergency medicine
2. - A combination of understanding and clinical / practical application of intensive care and emergency medicine (**skill**)
3. - The ability to solve problems, transferring existing knowledge and acquired skills to new situations (**ability**)

General Abilities

- Search, analyze, and synthesize data and information
- Adapt to new situations
- Decision making
- Autonomous work
- Teamwork
- Work in an international and interdisciplinary environment
- Production of new research ideas

316. COURSE CONTENT

- Cardiopulmonary Resuscitation
- Airway estimation and securing
- Introduction to non-invasive mechanical ventilation
- Introduction to invasive mechanical ventilation
- Sepsis - Septic Shock – Multiple Organ Dysfunction Syndrome (MODs) in the ICU
- Acute Respiratory Distress Syndrome (ARDS)
- Infections in the ICU
- Enteral and Parenteral Feeding in the ICU
- Monitoring of the cardiovascular system in the ICU - Hemodynamic Monitoring
- Estimation, treatment and monitoring of patients with craniocerebral injuries in the ICU
- Introduction to Brain Death
- Acid base balance - Liquids - Electrolytes
- Ethical issues in the ICU

- Discussion of critical care patient cases

317. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of information and communication teaching technologies	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	20
	Participation in educational clinical visits	10
	Clinical Exercise (ICU and Anesthesiology)	10
	Study and analysis of bibliography, writing of scientific papers	2
	<i>Total number of hours for the Course</i>	42 hours
STUDENT ASSESSMENT	<p>Assessment Language: Greek</p> <p>Assessment methods:</p> <ul style="list-style-type: none"> • Multiple Choice Test • Short answer questions • Oral case discussions <p>The evaluation criteria are explicitly specified for the students. Both the multiple-choice test and the short answer questions are based on the content of the lessons (lectures) to the students. Courses are accessible to</p>	

	students. Oral case discussions and clinical exercises are complementary / auxiliary.
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318. RECOMMENDED LITERATURE

<p><i>Principles of Critical Care (Hall et al.),</i></p> <p><i>PACT (ESICM),</i></p> <p><i>Intensive Care Medicine, Critical Care Medicine, JAMA, N.Eng.Journal of Medicine</i></p>

Description

COURSE OUTLINE

319. GENERAL

SCHOOL	MEDICINE		
DEPARTMENT	ORTHOPAEDICS		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED	SEMESTER OF STUDIES	9 TH – 10 TH
COURSE TITLE	ORTHOPAEDICS		
INDEPENDENT TEACHING		TEACHING HOURS	ECTS CREDITS

ACTIVITIES	PER WEEK	
COURSE TYPE	Scientific area, expertise	
PREREQUISITE COURSES:		
TEACHING AND ASSESSMENT LANGUAGE:	Greek, English	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	yes	
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/main/portfolio.php	

320. LEARNING OUTCOMES

Leraning outcomes

-

This course is an introduction to General Orthopaedics & Traumatology

Basic knowledge of Orthopaedics is offered to Medical students that can be applied in their future practice as general doctors in:

1. Health centers
2. Small provincial offices
3. Regional hospitals as on call doctors of the surgical department
4. Private offices

General Educational Goals

Upon completion of studentship the students would be able to:

1. Identify and manage life-threatening injuries (i.e. pelvic fractures, multi-trauma patients)
2. Identify and manage various orthopaedic emergencies (i.e. Cauda equina syndrome, amputations, open fractures, compartment syndromes).
3. Identify and manage various acute (non-urgent) orthopaedic injuries (fractures, dislocations, infections) and provide initial stabilization (plaster cast, bracing).
4. Identify and apply primary care in chronic orthopaedic diseases, (sciatica, back pain, arthritis, tendinitis) and proceed to initial radiological and biochemical investigation before referral to appropriate doctors.
5. Identify possible complications for his/her practice and manage them accordingly.
6. To communicate with his/her colleagues describing the problem.

General Abilities

- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

321. COURSE CONTENT

Lectures

- Bone metabolism: micro-anatomy and physiology
- Osteoporosis – metabolic diseases
- Fractures of pelvis & acetabulum
- Bone & Joint infections
- Inflammatory & degenerate arthritis
- injuries & diseases of the Shoulder
- injuries & diseases of the Elbow
- Injuries & diseases of wrist and hand
- Injuries & diseases of the hip
- Injuries & diseases of the knee
- Injuries & diseases of the foot and ankle
- Injuries & diseases of the spine
- Soft tissue tumors
- Bone tumors
- Paediatric Orthopaedics (injuries and diseases in children)

Clinical Practice

Introduction – Learning outcomes and goals

Immobilization of fractures (casts, braces)
Clinical examination: shoulder and elbow
Clinical examination: hip and pelvis
Clinical examination: knee
Clinical examination: wrist and hand - carpal tunnel syndrome
Adult reconstruction (hip and knee arthroplasty)
Management of the polytrauma patient – Damage Control Orthopaedics
Compartment syndrome – pulmonary and fat embolism
Introduction to physiatry and rehabilitation
Rehabilitation of the orthopaedic patient
Management of spinal cord injuries
Management of cerebral injuries and stroke
Management of decubitus
Research opportunities in musculoskeletal diseases
Workshop in patients with spinal cord injury
Workshop in patients with head injury and stroke
Fragility fractures
Techniques of suturing in skin lacerations

322. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Class, ward rounds, operation theater, A & E department, Rehabilitation center	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	30
	Clinical practice - lessons	40
	Interactive teaching	10
	Ward rounds	5
	Operation theater	5
	Practice in A & E and rehabilitation center	5
	Self-contained study	30
	<i>Σύνολο Μαθήματος (25 ώρες φόρτου εργασίας ανά πιστωτική μονάδα)</i>	<i>125</i>

STUDENT ASSESSMENT	<p>I. Written examination (50%) [multiple choice or full text]</p> <p>II. Oral examination (50%) in small groups after completion of clinical practice</p>
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323. RECOMMENDED LITERATURE

<p>Miller's Review of Orthopaedics, Book by Assistant Professor of Psychiatry Mark D Miller, MD</p> <p>Apley's System of Orthopaedics and Fractures. Textbook by Alan Graham Apley and Louis Solomon</p> <p>Essential Orthopaedics and Trauma Textbook by David J Dandy</p> <p>Clinical orthopaedic examination Textbook by Ronald McRae</p> <p>McRae's Orthopaedic Trauma and Emergency Fracture Management Book by Alasdair J Gray, Samuel and Timothy O. White</p>

SURGERY -CLINICAL TRAINING 5th Year, 9th and 10th Semester (mandatory).

Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week- 8 weeks).

ECTS Units 14

Teachers M. Stavropoulos, J. Tsolakis, K. Panagopoulos, S. Kakkos, G. Skroubis, I. Maroulis, J. Kechagias, I. Panagiotopoulos,

Description

The clinical training of students in Surgery is taking place both in the 5th and 6th year and lasts 8 weeks in the 5th year (including the clinical training in anesthesiology - intensive monitoring and Orthopaedics) and 6 weeks in the 6th year.

The main objective of the clinical training of students of the 5th year, is at the end of the training to feel that they are able to undertake the access and identification procedure of the surgical problem of a patient.

The practical application of achieving this goal which will also be the culmination of undergraduate surgical education of the student, will be in the responsibility of an assistant that the student will take during the clinical training in the 6th year.

Achieving this goal is a bidirectional concept and it is based on the effort of both the trainer and the trainee.

The instructor is academically obliged to help the student in order to be able to handle scientifically well and responsibly the problem of the patient. This procedure is performed on one hand with lessons- discussions in small groups referred to the most common surgical problems (diagnostic approach, differential diagnosis and therapeutic approach are taught) and on the other hand by applying the above to clinical practice, namely to the patients hospitalized in the clinic, with various surgical problems.

The process of this interactive educational effort, in order to achieve the above objective, is based on a specific training program, which has theoretical and practical parts.

A. Theoretical part

Courses focused on the clinical problems of hospitalized patients in the Surgery Clinic:

- Upper – lower digestive system bleeding
- Fluids - electrolytes
- Ileum
- Colon cancer
- Liver- biliary – pancreatic cancer
- Investigation of thyroid nodule
- Surgical treatment of the clinically severe obesity
- Jaundice
- Acute surgical abdomen
- Breast lumps investigation

Hypovolaemic shock
Embolism – limbs thrombosis
Acute pancreatitis
Surgical treatment of type II diabetes and metabolic syndrome
Solid organ transplantations
Acute thorax

B. Practical part, that aims to:

Physical examination, proper learning and execution.

The collection of reliable information and data from patients with skillful efficient and effective manner.

The writing of a form of a medical history with diagnostic plan, choice of laboratory tests and choice of therapeutic methods.

Clinical training curriculum for the students of the 5th year.

The clinical training is mandatory and in accordance with the decision of the Department, only two justified absences are allowed.

Students' arrival time is 8:00 p.m. From 8:00 p.m. to 8:30 p.m. they watch both of the departments of their clinic. Students of the 6th year and the interns are collecting blood samples; scheduling examinations on patients and preparing the medical history of the patient for the morning round.

9.00-10.30: Watch and participate in the clinical visit in both of the departments of the clinic with the department head, the interns and the students of the 6th year. In this clinical visit the students of the 5th year will be taught physical examination in specific surgical diseases and the preoperative preparation and postoperative monitoring.

11-13.00: The students with the students of the 6th year and with the interns participate in medical history taking and in the clinical examination of new patients.

13.00-14.00: Lesson.

Then, the students watch in both of the departments of the clinic the interns and the students of the 6th year preparing patients to be operated the following day.

At the end of the course only the students on call stay in the clinic.

Student participation in the call of the clinic is considered to be mandatory. Specifically there are 2 students of the 5th year in the general call and 2 of them in the internal call, according to a program drawn up at the beginning of the two months period. The call is mandatory and students on duty must remain in the hospital until 11p.m. in the general call and by 9 in the internal call.

The students' presence is mandatory in the advanced courses of the clinic that are taking place once a month, in the

Auditorium of the Hospital.

Educational objectives in clinical training of the students of the 5th year in Orthopaedics.

The student must be able to:

Recognize the clinical presentation of emergency orthopaedic cases and managed them appropriate.

Apply casts, dressings and splints and to know their usage and complications.

Recognize the clinical signs of orthopaedic soft tissues, joints and bone infections. He/she must be able to start immediate therapy and order the appropriate laboratory and imagine tests.

Interpret and understood the radiological signs of fractures and degenerative diseases in orthopaedics.

Perform a thorough clinical examination and comprehensive history taking for orthopaedic diseases in the past. To explain the problem to the patient and his or her relatives. To cooperate with the rest medical and nursery stuff of the clinic.

Attend basic surgical procedures in the OR and discuss the approach and management with the consultants.

Actively participate in the on call rota at the A & E Department under the supervision of specialist registrars and consultants.

Participate in the regular outpatient office of the clinic where he/she will be able to examine the patients, interpret the x-rays and to follow up the patients who have been operated.

Educational objectives

Educational objectives of the clinical training in Intensive Care of the students of the 5th year

During the practice in the Intensive Care Unit the students will acquire basic knowledge in the following subjects:

Support of the airway in critically ill patients and practice in advanced cardiopulmonary resuscitation.

Forms of oxygen- therapies.

Assessment of priorities for therapeutic interventions in patients with multiple problems.

Monitoring (namely continuous monitoring and recording of vital functions): respiratory, circulatory, CNS, renal function etc.

Assessment of critically ill patients and treatment planning per system:

Respiratory

Cardio - circulatory

CNS (Traumatic brain injury treatment, Glasgow Comma Scale(GCS), ICP monitoring , Analgesia, Sedation)

kidney (and acid-base balance disorders)

Liver, biochemical disorders

Infection, Sepsis, Antibiotic treatment

Gastrointestinal (includes diet and gastroprotection)
 Systems of assessment of critically ill patients (scoring systems, such as APACHE-II, SOFA, SAPS, TISS etc)
 Triage and criteria for introduction to the ICU.
 Ventilation mechanism (invasive and noninvasive)
 Indications – Contra-indications
 Methods
 Respirators
 Weaning
 Metabolic and electrolyte disorders
 Addressing the multiple trauma patient in the ICU with or without concomitant traumatic brain injury
 Systemic inflammatory response and sepsis
 Disinfection, prevention and treatment of infection
 Patient with brain death in the ICU – organ donors and recipient
 Technological issues: Respirators, Electrical safety, Ultrasounds etc.

Exercise evaluation At the end of the clinical training the students of the 5th year are graded by the trainers.

SURGERY- CLINICAL TRAINING 6th Year, 11th and 12th Semester (mandatory).

Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week- 6 weeks).
12

ECTS Units J. Tsolakis, K. Panagopoulos, S. Kakkos, G. Skroubis, I. Maroulis, J. Kechagias.
Teachers

COURSE OUTLINE

Description

289.324. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	FACULTY OF MEDICINE		
COURSE CODE	MED_1122	SEMESTER OF STUDIES	11th
COURSE TITLE	Surgery		

INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
LECTURES - ON BED TRAINING - OR PARTICIPATION		35/week, 6 weeks	12
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be performed in English, in case foreign students attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)		
COURSE WEBPAGE (URL)			

290.325. LEARNING OUTCOMES

Learning outcomes

-

Students will gain wide knowledge of common surgical diseases. Basic anatomical and pathophysiological knowledge will recall, in order to understand, in depth, surgical diseases.

Students will gain skills in completing medical records, performing physical examination, presenting surgical cases, performing simple procedures (blood sampling, catheter insertion, suturing).

Gaining knowledge and skills, students will acquire the ability to perform patient primary assessment, to structure a diagnostic plan, to make differential diagnosis and lastly introduce a therapeutic plan for patients with surgical diseases.

General Abilities

Search, analysis and synthesis of data with the use of appropriate technologies
Decision making
Working alone and as part of a team

291.326. COURSE CONTENT

Preoperative assessment
Postoperative monitoring
Fluids – Electrolytes
Acute abdomen
Upper and Lower GI bleeding
Intestinal obstruction
Colon cancer
HPB cancer
Breast cancer
Gastric cancer
Jaundice
Hernias
Thyroid goiter - thyroid nodule
Bariatric - metabolic surgery
Acute pancreatitis
Hypovolemic shock
Trauma
Mesenteric embolism - Arterial embolism - Abdominal aortic aneurysm - venous insufficiency
Thoracic emergencies
Organ transplantation

292.327. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face, e-class.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of I.C.T (eg Powerpoint) in lectures. The lectures are uploaded on the Internet (e-class).	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Ward rounds	60
	Lectures	30
	Surgical cases presentation	20
	Participation on call duties	40
	<i>Total number of hours for the Course</i>	<i>150</i>
STUDENT ASSESSMENT	<p>Written assessment Oral exams</p> <p>Minimum passing grade: 5</p>	

293.328. RECOMMENDED LITERATURE

D. Voros, Surgery, 2nd edition, Parisianou A.E. 2014

Basic principle in the education of the students of the 6th year during their clinical practice in surgery is the assignment of full clinical responsibility to students. They participate in all clinical and educational concentrations of the Clinic and are encouraged to express opinions and questions. Each student is responsible for two to three patients, and processes under supervision full preoperative and postoperative monitoring, while there is an effort for regular participation in surgery. In this way, together with the discussions of the cases that are taking place in the Department and in the Clinic, it is believed that the student during clinical training obtains a complete picture of the treatment of the most common surgical diseases.

The participation of the students in the Clinic call is considered mandatory. Specifically, 2 students of the 6th year are in the general call and 2 of them in the internal call, according to the program drawn up at the beginning of the two months period. Mandatory is the eve of the students in the general call until 23.00 and until 21.00 in the internal call. During the call the training is related to the overall treatment of surgical emergency incident.

Two absences are allowed during the clinical practice. Beyond these the clinical training is repeated.

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Mandatory is the presence of students in advanced courses of the clinic that are taking place once a month, in the auditorium of the Hospital.

08.00- 08.30	Blood sampling
08.30- 09.00	Patients examination, preparation for visit
08.00-14.00	Surgery (except from Wednesday)
09.00-10.30	Nursing visit
10.30- 11.30	Department backlog processing
11.30- 12. 30	Patient hospitalization, medical history taking

12.30- 13.00	Brake
13.00- 14.00	5 th year lessons Surgery cases preparation for the following day
17.30- 19.30	Afternoon educational visit (doctors on call) Discussion for the complications of the week (Wednesday)

Address

University Hospital of Patras, 2nd floor
Tel 2610-999299, 2610999323, Fax: 2610-993984

CLINIC STAFF

Director

Professor Kalfarentzos Fotis

Professors

Eyaggelos Tzorakoleutherakis, Dionysios Karavias, Dimitrios Koukouras, Stavropoulos Michail

Associate Professors

-

Assistant Professors

Konstantinos Panagopoulos, George Skroubis, John Kechagias, Ioannis Maroulis

Lecturers

-

Supporting research and

-

Technical Staff

***Part of Integration I και II and of the course «Bioethics» in the 3rd year**

SURGERY -CLINICAL TRAINING 5th Year, 9th and 10th Semester (mandatory).

Hours Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week-8 weeks).

ECTS Units**Teachers**

14

F. Kalfarentzos, E. Tzorakoleutherakis, D. Karavias, M. Stavropoulos, D. Koukouras, J. Tsolakis, K. Panagopoulos, S. Kakkos, G. Skroubis, I. Maroulis, J. Kechagias, I. Panagiotopoulos, M. Tillianakis, P. Megas, K. Filos, F. Fligkou.

Description

The clinical training of students in Surgery is taking place both in the 5th and 6th year and lasts 8 weeks in the 5th year (including the clinical training in anesthesiology - intensive monitoring and Orthopaedics) and 6 weeks in the 6th year.

The main objective of the clinical training of students of the 5th year, is at the end of the training to feel that they are able to undertake the access and identification procedure of the surgical problem of a patient.

The practical application of achieving this goal which will also be the culmination of undergraduate surgical education of the student, will be in the responsibility of an assistant that the student will take during the clinical training in the 6th year.

Achieving this goal is a bidirectional concept and it is based on the effort of both the trainer and the trainee.

The instructor is academically obliged to help the student in order to be able to handle scientifically well and responsibly the problem of the patient. This procedure is performed on one hand with lessons-discussions in small groups referred to the most common surgical problems (diagnostic approach, differential diagnosis and therapeutic approach are taught) and on the other hand by applying the above to clinical practice, namely to the patients hospitalized in the clinic, with various surgical problems.

The process of this interactive educational effort, in order to achieve the above objective, is based on a specific training program, which has theoretical and practical parts.

A. Theoretical part

Courses focused on the clinical problems of hospitalized patients in the Surgery Clinic:

1. Upper – lower digestive system bleeding
2. Fluids - electrolytes
3. Ileum
4. Colon cancer
5. Liver- biliary – pancreatic cancer
6. Investigation of thyroid nodule
7. Surgical treatment of the clinically severe obesity
8. Jaundice
9. Acute surgical abdomen
10. Breast lumps investigation
11. Hypovolaemic shock
12. Embolism – limbs thrombosis
13. Acute pancreatitis
14. Surgical treatment of type II diabetes and metabolic syndrome
15. Solid organ transplantations
16. Acute thorax

B. Practical part, that aims to:

1. Physical examination, proper learning and execution.
2. The collection of reliable information and data from patients with skillful efficient and effective manner.
3. The writing of a form of a medical history with diagnostic plan, choice of laboratory tests and choice of therapeutic methods.

Clinical training curriculum for the students of the 5th year.

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- Students' arrival time is 8:00 p.m. From 8:00 p.m. to 8:30 p.m. they watch both of the departments of their clinic. Students of the 6th year and the interns are collecting blood samples; scheduling examinations on patients and preparing the medical

history of the patient for the morning round.

- 9.00-10.30: Watch and participate in the clinical visit in both of the departments of the clinic with the department head, the interns and the students of the 6th year. In this clinical visit the students of the 5th year will be taught physical examination in specific surgical diseases and the preoperative preparation and postoperative monitoring.
- 11-13.00: The students with the students of the 6th year and with the interns participate in medical history taking and in the clinical examination of new patients.
- 13.00-14.00: Lesson.
- Then, the students watch in both of the departments of the clinic the interns and the students of the 6th year preparing patients to be operated the following day.

At the end of the course only the students on call stay in the clinic.

Student participation in the call of the clinic is considered to be mandatory. Specifically there are 2 students of the 5th year in the general call and 2 of them in the internal call, according to a program drawn up at the beginning of the two months period. The call is mandatory and students on duty must remain in the hospital until 11p.m. in the general call and by 9 in the internal call.

The students' presence is mandatory in the advanced courses of the clinic that are taking place once a month, in the Auditorium of the Hospital.

Educational objectives

Educational objectives in clinical training of the students of the 5th year in Orthopaedics.

The student must be able to:

1. Recognize the clinical presentation of emergency orthopaedic cases and managed them appropriate.
2. Apply casts, dressings and splints and to know their usage and complications.
3. Recognize the clinical signs of orthopaedic soft tissues, joints

- and bone infections. He/she must be able to start immediate therapy and order the appropriate laboratory and imaging tests.
4. Interpret and understand the radiological signs of fractures and degenerative diseases in orthopaedics.
 5. Perform a thorough clinical examination and comprehensive history taking for orthopaedic diseases in the past. To explain the problem to the patient and his or her relatives. To cooperate with the rest medical and nursing staff of the clinic.
 6. Attend basic surgical procedures in the OR and discuss the approach and management with the consultants.
 7. Actively participate in the on call rota at the A & E Department under the supervision of specialist registrars and consultants.
 8. Participate in the regular outpatient office of the clinic where he/she will be able to examine the patients, interpret the x-rays and to follow up the patients who have been operated.

Educational objectives of the clinical training in Intensive Care of the students of the 5th year

During the practice in the Intensive Care Unit the students will acquire basic knowledge in the following subjects:

1. Support of the airway in critically ill patients and practice in advanced cardiopulmonary resuscitation.
2. Forms of oxygen-therapies.
3. Assessment of priorities for therapeutic interventions in patients with multiple problems.
4. Monitoring (namely continuous monitoring and recording of vital functions): respiratory, circulatory, CNS, renal function etc.
5. Assessment of critically ill patients and treatment planning per system:
 - Respiratory
 - Cardio - circulatory
 - CNS (Traumatic brain injury treatment, Glasgow Coma Scale(GCS), ICP monitoring, Analgesia, Sedation)
 - kidney (and acid-base balance disorders)

- Liver, biochemical disorders
- Infection, Sepsis, Antibiotic treatment
- Gastrointestinal (includes diet and gastroprotection)
- 6. Systems of assessment of critically ill patients (scoring systems, such as APACHE-II, SOFA, SAPS, TISS etc)
- 7. Triage and criteria for introduction to the ICU.
- 8. Ventilation mechanism (invasive and noninvasive)
 - Indications – Contra-indications
 - Methods
 - Respirators
 - Weaning
- 9. Metabolic and electrolyte disorders
- 10. Addressing the multiple trauma patient in the ICU with or without concomitant traumatic brain injury
- 11. Systemic inflammatory response and sepsis
- 12. Disinfection, prevention and treatment of infection
- 13. Patient with brain death in the ICU – organ donors and recipient
- 14. Technological issues: Respirators, Electrical safety, Ultrasounds etc.

Exercise evaluation

At the end of the clinical training the students of the 5th year are graded by the trainers.

SURGERY- CLINICAL TRAINING

6th Year, 11th and 12th Semester (mandatory).

Hours

Teaching: -, Laboratories: -, Tutorial: -, Clinical training: 35 (per week- 6 weeks).

ECTS Units

12

Teachers

F. Kalfarentzos, E. Tzorakoleutherakis, D. Karavias, M. Stavropoulos, D. Koukouras, J. Tsolakis, K. Panagopoulos, S. Kakkos, G. Skroubis, I. Maroulis, J. Kechagias.

Description

Basic principle in the education of the students of the 6th year during their clinical practice in surgery is the assignment of full

clinical responsibility to students. They participate in all clinical and educational concentrations of the Clinic and are encouraged to express opinions and questions. Each student is responsible for two to three patients, and processes under supervision full preoperative and postoperative monitoring, while there is an effort for regular participation in surgery. In this way, together with the discussions of the cases that are taking place in the Department and in the Clinic, it is believed that the student during clinical training obtains a complete picture of the treatment of the most common surgical diseases.

The participation of the students in the Clinic call is considered mandatory. Specifically, 2 students of the 6th year are in the general call and 2 of them in the internal call, according to the program drawn up at the beginning of the two months period. Mandatory is the eve of the students in the general call until 23.00 and until 21.00 in the internal call. During the call the training is related to the overall treatment of surgical emergency incident.

Two absences are allowed during the clinical practice. Beyond these the clinical training is repeated.

At the end of the clinical training the students of the 6th year are assessed by their instructors.

Mandatory is the presence of students in advanced courses of the clinic that are taking place once a month, in the auditorium of the Hospital.

***Indicative Daily
Schedule of the Clinic for the
students training***

08.00- 08.30	Blood sampling
08.30- 09.00	Patients examination, preparation for visit
08.00-14.00	Surgery (except from Wednesday)
09.00-10.30	Nursing visit
10.30- 11.30	Department backlog processing
11.30- 12. 30	Patient hospitalization, medical history taking
12.30- 13.00	Break

13.00- 14.00	5 th year lessons Surgery cases preparation for the following day
17.30- 19.30	Afternoon educational visit (doctors on call) Discussion for the complications of the week (Wednesday)

Transplant 4th Year, 11th and 12th Semester (optional).

Hours Laboratories: -, Tutorial: -, Clinical training: 35 (per week).

ECTS Units 4

Teachers

COURSE OUTLINE

329. GENERAL

SCHOOL	Medicine		
DEPARTMENT	Medical school		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_873	SEMESTER OF STUDIES	8th

COURSE TITLE	Transplant	
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures	12,5	5
COURSE TYPE	Field of Science	
PREREQUISITE COURSES:	<p>Typically, there are no prerequisite courses.</p> <p>Essentially, the student should possess knowledge of basic Anatomy, Physiology and Surgery</p>	
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be performed in English, in case foreign students attend the course.	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBPAGE (URL)		

330. LEARNING OUTCOMES

Lerning outcomes

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Understanding of the immunological mechanisms of transplants

Understanding of the rejection mechanisms

Understanding of the anatomy and physiology of organ transplants

Understanding of brain death and organ donation

General Abilities

Search, analysis and synthesis of data with the use of appropriate technologies

Decision making

Working alone and as part of a team

331. COURSE CONTENT

<p>Immunology of transplants</p> <p>Organ removal and preservation</p> <p>Kidney transplant</p> <p>Liver transplant</p> <p>Pancreas transplant</p> <p>Multiorgan transplant</p>

332. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face, e-class.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of I.C.T (eg Powerpoint) in teaching. The lectures are uploaded on the Internet (e-class).	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures (12,5 hours/week x 2 weeks)	25
	Participation in the OR (after consulting the Professor)	Optional

	<i>Total number of hours for the Course</i>	25
STUDENT ASSESSMENT	<p>Written assessment, lasting 1 hour.</p> <p>Minimum passing grade: 5.</p> <p>Possibility of writing an assignment ~5-10 pages long, towards improving the final grade, provided that the student has reached the minimum passing grade.</p>	

333. RECOMMENDED LITERATURE

D. Voros, Surgery, 2nd edition, Parisianou A.E. 2014

E-class notes

DEPARTMENT OF ANAESTHESIOLOGY AND INTENSIVE CARE

Address University Hospital of Patras, 3rd floor
Tel. 2610-993947, 2610-999341, Fax: 2610-993947

CLINIC STAFF
Director Foteini Fligkou, Grigorios Vogiatzis, **Kriton Filos**
Foteini FligkouVogiatzis Gregory

Professors Vogiatzis Gregory
Associate Professor Foteini Fligkou Grigorios Vogiatzis, **Kriton Filos**
Assistant Professor -
Lecturers -
Supporting research and Technical Staff

* Part of the Surgery – Clinical Training in the 5th year and of the course «Bioethics» in the 3rd year

**ANAESTHESIOLOGY /
INTENSIVE CARE**

Hours

**ECTS Units
Teachers**

Description

6th Year, Semesters 11th & 12th (optional)

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)
4

F. Fligkou supported by the National Health Service doctors of the Intensive Care Unit

COURSE OUTLINE

294.334. GENERAL

SCHOOL	Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate (Basic)		
COURSE CODE	MED_1159	SEMESTER OF STUDIES	56 th Year (911 th -102 th semester)
COURSE TITLE	Intensive Care Medicine		
INDEPENDENT TEACHING ACTIVITIES ωv	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	10	150	
Participation in educational clinical visits	5	75	
Clinical Exercise (ICU and Anesthesiology)	5	75	
Study and analysis of bibliography, writing of scientific papers	1	15	
	21 hours (total)	315	
COURSE TYPE	Scientific Area		

PREREQUISITE COURSES:	No
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2P0SJE7XgRa?dl=0

295.335. LEARNING OUTCOMES

Leraning outcomes

-

Course Objectives:

Knowledge, understanding, implementation, synthesis and evaluation of intensive care and emergency medicine issues.

In the intensive care course, the above goals are summarized in 3 categories

1. - **Knowledge** of intensive care and emergency medicine
2. - A combination of understanding and clinical / practical application of intensive care and emergency medicine (**skill**)
3. - The ability to solve problems, transferring existing knowledge and acquired skills to new situations (**ability**)

General Abilities

- Search, analyze, and synthesize data and information
- Adapt to new situations
- Decision making
- Autonomous work
- Teamwork
- Work in an international and interdisciplinary environment
- Production of new research ideas

296.336. COURSE CONTENT

- Cardiopulmonary Resuscitation
- Airway estimation and securing
- Introduction to non-invasive mechanical ventilation
- Introduction to invasive mechanical ventilation
- Sepsis - Septic Shock – Multiple Organ Dysfunction Syndrome (MODs) in the ICU
- Acute Respiratory Distress Syndrome (ARDS)
- Infections in the ICU
- Enteral and Parenteral Feeding in the ICU
- Monitoring of the cardiovascular system in the ICU - Hemodynamic Monitoring
- Estimation, treatment and monitoring of patients with craniocerebral injuries in the ICU
- Introduction to Brain Death
- Acid base balance - Liquids - Electrolytes
- Ethical issues in the ICU

- Discussion of critical care patient cases

297.337. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of information and communication teaching technologies	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	20
	Participation in educational clinical visits	10
	Clinical Exercise (ICU and Anesthesiology)	10
	Study and analysis of bibliography, writing of scientific papers	2
	<i>Total number of hours for the Course</i>	42 hours
STUDENT ASSESSMENT	Assessment Language: Greek	

	<p>Assessment methods:</p> <ul style="list-style-type: none">• Multiple Choice Test• Short answer questions• Oral case discussions <p>The evaluation criteria are explicitly specified for the students. Both the multiple-choice test and the short answer questions are based on the content of the lessons (lectures) to the students. Courses are accessible to students. Oral case discussions and clinical exercises are complementary / auxiliary.</p>
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298.338. RECOMMENDED LITERATURE

<p><i>Principles of Critical Care (Hall et al.),</i></p> <p><i>PACT (ESICM),</i></p> <p><i>Intensive Care Medicine, Critical Care Medicine, JAMA, N.Eng.Journal of Medicine</i></p>

Address

University Hospital of Patras, 3rd floor
Tel. 2610-993947, 2610-999341, Fax: 2610-993947

CLINIC STAFF

<i>Director</i>	Professor Kriton Filos
<i>Professors</i>	-
<i>Associate</i>	Foteini Fligkou
<i>Professor</i>	-
<i>Assistant</i>	-
<i>Professor</i>	-
<i>Lecturers</i>	
<i>Supporting</i>	
<i>research and Technical</i>	
<i>Staff</i>	

* Part of the Surgery – Clinical Training in the 5th year and of the course «Bioethics» in the 3rd year

ANAESTHESIOLOGY / INTENSIVE CARE

6th Year, Semesters 11th & 12th (optional)

Hours

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

ECTS Units

4

Teachers

K. Filos, F. Fligkou supported by the National Health Service doctors of the Intensive Care Unit

Description

The goal of this course is to familiarize students with the therapeutic approach of critically ill patients in the Intensive Care Unit. Students participate in the medical morning report, ward rounds and the therapeutic management following small groups of doctors, approaching systematically patients who invariably suffer from multiple organ failure.

Particular emphasis is placed on the comprehension of the following pathophysiological disorders and problems, which are expected to be treated in the Intensive Care Unit, such as:

- Acute respiratory failure
- Chronic respiratory failure
- Cardiovascular shock
- Systemic Inflammatory Response Syndrome and sepsis
- Multiple Organ Dysfunction Syndrome
- Multiple-trauma management
- Head and brain injury
- Diagnostic approach to the febrile patient in the Intensive Care Unit

DEPARTMENT OF OPHTHALMOLOGY

Address University Hospital of Patras, 1st floor
Tel.: 2610-999286

CLINICAL STAFF

Medical Director of the Clinic Prof. Nikolaos Farmakakis

Professors -
Associate Professors - Konstantinos Georgakopoulos

Assistant Professors -
Lecturers -
Supporting Teaching and Technical Staff Christina Apostolopoulou

OPHTHALMOLOGY 4th Year, 8th Semester (mandatory)
Hours Teaching: - ,Laboratory: - ,Tutorial: - , Clinical Training: 25 hours per week (2 weeks)
5
ECTS Units N. Farmakakis, K. Georgakopoulos
Teachers

Description

COURSE OUTLINE

299.339. GENERAL

SCHOOL	MEDICAL SCHOOL		
DEPARTMENT	OPHTHALMOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_ 831	SEMESTER OF STUDIES	8 th
COURSE TITLE	OPHTHALMOLOGY		
		TEACHING	ECTS CREDITS

	HOURS PER WEEK	
	25	5
COURSE TYPE	Compulsory, General Knowledge, Core Course, Skills Development	
PREREQUISITE COURSES:	Typically, there are not prerequisite course.	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBPAGE (URL)		

300.340. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •

By the end of this course the student will be able to:

To use the ophthalmic instruments and examine a patient

Recognize the most common diseases of the eye

And suggest possible treatment modalities

General Abilities

301.341. COURSE CONTENT

DESCRIPTION OF OPHTHALMOLOGY COURSE

Ophthalmological examination

Presentation of ophthalmic equipment

Medical History

Examination of eyelids, nasal passages, conjunctiva, cornea, anterior chamber, lens, Fundoscopy

Confrontation Visual Field Testing

Intraocular Pressure measurement

Eyelashes

Growth abnormalities

Eyelid drooping (ptosis), Entropion, Ectropion, Blepharospasm

Inflammations

Benign / malignant tumors

Lacrimal system

Disorders of the lower lacrimal system
Dacryocystitis
Tumors of the lacrimal system
Malfunction of the lacrimal system
Keratoconjunctivitis sicca, Tearing
Diseases of the lacrimal gland, Lacrimal gland tumors

Conjunctiva
Congenital degeneration and age changes
Conjunctivitis, Tumors of conjunctiva

The cornea
Developmental anomalies / Ectatic abnormalities
Mechanisms of corneal protection
Bacterial keratitis, Viral keratitis
Non-infectious keratitis and keratopathy
Contact lens associated problems
Corneal deposits, degenerations and dystrophies
Corneal Surgery
Corneal refractive surgery

The Sclera
Wounds and Inflammation
Episcleritis
Scleritis

Lens
Congenital lens abnormalities
Cataract, cataract treatment
Secondary cataract
Lens dislocation

Uvea

Acquired abnormalities

Inflammation (Acute iritis and iridocyclitis, Chronic iritis and iridocyclitis, Choroiditis)

Sympathetic ophthalmia

Iris Neovascularization

Tumors (Malignant tumors, benign choroidal tumors)

Pupil

The light reflection

Evaluating the near reflexion

Effect of pharmacological agents on pupil

Abnormalities of mobility of the iris

Glaucoma

Primary glaucoma

Secondary glaucoma

Child glaucoma

Vitreous body

Vitreous detachment

Pathological changes in the vitreous body

Vitreous haemorrhage, Vitritis and endophthalmitis

Neovascularization of the retina

Surgical treatment, vitrectomy

Retina

Retinal vascular disease

Degenerative disease of the retina

Retina detachment

Central serous chorioretinopathy

Age-related macular degeneration

Retinal Dystrophy

Toxic retinopathy

Retinal vasculitis

Inflammations

Retinal tumors

Optic nerve

Disturbances that blur the boundaries of the optical disc

Congenital disorders that blur the boundaries of the optic disc

Acquired disturbances that blur the boundaries of the optic disc

Disturbances in which the boundaries of the optical disc are clearly scarred

Tumors

Intraocular tumors of the optic nerve

Retrobulbar tumors of the Optic nerve

Visual pathway

Visual tract disorders

Pro-chiasmatic damage

Chiasmatic damage

Post-Chiasmatic damage

Orbit

Anomalies of conformation

Orbitopathy in autoimmune disorders: Graves disease

Inflammation of the orbit

Vascular disorders

Tumors

Surgery in Orbit diseases

Visual and refractive errors

Refraction in the eye: Emmetropia and ametropia

Refraction abnormalities, Correction of refractive errors

Eyeglass lenses, Contact lenses, Prisms
Magnifying aids for vision

Ophthalmopathy and strabismus
Types of Strabismus
Treatment of strabismus
Treatment and prevention of amblyopia
Surgery
Ophthalmoplegia and paralytic strabismus
Nystagmus

Ocular trauma
Mechanical wounds
Open globe wounds
Penetrating trauma
Chemical burns
Wounds from physical agents
Thermal burns
Radiation injuries (ionizing radiation)
Indirect eye trauma: Purtscher retinopathy

302.342. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures face to face.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. p in teaching.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργα Εξαμήνου</i>

	Lectures	125
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	125 (total student work-load)
STUDENT ASSESSEMNT	Written examination after the end of the semester - final grade Minimum passing grade: 5.	

303.343. RECOMMENDED LITERATURE

Suggested Books

**CLINICAL TRAINING IN
OPHTHALMOLOGY**

Hours

ECTS Units

Teachers

Description

6th Year, Semesters 11th & 12th (mandatory)

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 35 hours per week (2 weeks)

4

N. Farmakakis, K. Georgakopoulos

Mandatory clinical training during the 6th Year of studies for 2 weeks.

COURSE OUTLINE

304.344.GENERAL

SCHOOL	MEDICAL SCHOOL		
SEPARTMENT	OPHTHALMOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_ 1125	SEMESTER OF STUDIES	11 th
COURSE TITLE	OPHTHALMOLOGY-CLINICAL TRAINING-COMPULSORY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	35	4	
<i>Lectures-Theory: 5 hours</i> <i>Laboaratories: 5 hours</i> <i>Teaching in small groups (tutorials, seminars, etc.): 5 hours</i> <i>Contact with patients (Clinic-Surgery-Outpatient Clinics)Επαφή με ασθενείς (Κλινική-Χειρουργείο-Εξωτερικά ιατρεία): 20 hours</i>			
COURSE TYPE	Compulsory, General Knowledge, Core Course, Skills Development		

PREREQUISITE COURSES:	Typically, there are not prerequisite course.
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBPAGE (URL)	

305.345.LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> • <p>The aim is for the student to be able to recognize basic clinical entities of ophthalmology and to be able diagnosis and possible treatment by simple ophthalmological examinations.</p> <p>The daily clinical exercise includes a start with 2 courses by specialized medical staff in the Clinic and then follow the course of the hospitalized patients or the patients of the Outpatient Departments and Departments. Also small groups of students participate in surgical interventions in the hospital's surgery the</p> <p>Matter is in line with developments in ophthalmology and is adjusted accordingly</p>
General Abilities

By the end of this course the student will be able to:

Search, analyze and synthesize data and information, using the necessary technologies.

To use the ophthalmic instruments and examine a patient

Recognize the most common diseases of the eye

And suggest possible treatment modalities

306.346. COURSE CONTENT

CONTENT-EDUCATIONAL OBJECTIVES

SLIT LAMP

- Installing and updating a patient
- Basic operations and machine operations
- Demonstration and examination in small groups
- Indications, patient update and fluorescein test display
- Examination of at least 3 patients, with discovery of findings

- Objectives: Familiarity with basic functions and basic forehead examination of anterior se accessories

ORDINARY OPHTHALMIC MEDICINE

- Indications, contraindications
- Categories and ways of use
- Objective: Connect with theory, drugs for diagnosis and pharmacy treatment of common eye conditions

EYELID REVERSAL

- Updating and placing a patient
- Demonstration and examination in small groups
- Objective: Familiarize yourself with the technique

DIRECT OPHTHALMOSCOPY

- Indications, restrictions
- Basic instrument operations, handling
- Updating and placing a patient
- Examination in small groups
- Examination of at least one patient with a cataract
- Examination of at least three patients with mydriasis
- Objectives: Familiarity with the instrument, red reflection and cataract.
- Identification of retinal vessels and optic disc.

FIRST AID

- Demonstration of washing and pH measuring system for chemical burns
- Eye bud in small groups

Objective: Recognition and first treatment of ophthalmic urgency

- • PRESENTING A CLINICAL CASE TO THE TEAMP
- Downloading history
- Reporting at least two positive and two negative findings
- Possible diagnosis and differential diagnosis
- Therapeutic approach

Objectives: Develop interpretation of findings and competences of interdisciplinary communication

OPTIONAL

- Tonometry o
- Indications, contraindications, methods, update and placement of patient, demonstration, interpretation of results, interpretation of visual fields

Objectives: Contact the exam

THE MEDICAL DOCUMENT

- Counseling and information note
- Medical assurance / consultation, prescription

Objective: Writing of ophthalmological findings

307.347. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Wor</i>
	Lectures	
	Small groups	
	Patient's examination	
	<i>Total number of hours for the Course</i> 60 HOURS	

STUDENT ASSESSMENT	Oral examination, Greek
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308.348. RECOMMENDED LITERATURE

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**CLINICAL TRAINING IN
OPHTHALMOLOGY**

6th Year, Semesters 11th & 12th (optional)

Hours

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)
4 Units

ECTS

N. Farmakakis, K. Georgakopoulos

Teachers

Clinical training for 2 weeks, as an optional course during the 6th Year of studies.

Description

COURSE OUTLINE

309.349. GENERAL

SCHOOL	MEDICAL SCHOOL		
SEPARTMENT	OPHTHALMOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED 1153	SEMESTER OF STUDIES	11 th
COURSE TITLE	OPHTHALMOLOGY-CLINICAL TRAINING-OPTIONAL		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	

	35	4
Theoretical training (Teaching hours/week) 1,5 hours		
COURSE TYPE	Optional, development of clinical skills	
PREREQUISITE COURSES:	-Compulsatory ophthalmology 8th semester -Compulsatory clinical course 11th semester	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBPAGE (URL)		

310.350. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •
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TARGET

- The acquisition of clinical skills and theoretical training beyond the obligatory learners.
- Content is in line with developments in ophthalmology and is adjusted accordingly

General Abilities

311.351. COURSE CONTENT

The student follows the program of trainer doctors and examines patients himself.

- Fills the history and performs the necessary clinical testing as appropriate.
- Handle emergencies.
- He participates in surgical operations.
- This is followed throughout the process by the trainer he follows in all his activities.

312.352. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Face to face	
	Contact with patients (Clinic - Surgery - Outpatient clinics)	
	Total number of hours for the Course	100
STUDENT ASSESSMENT	Oral	

313.353. RECOMMENDED LITERATURE

Multiple modern bibliography

DEPARTMENT OF OPHTHALMOLOGY

Address University Hospital of Patras, 1st floor
Tel.: 2610-999286

CLINICAL STAFF

Medical **Prof. Nikolaos Farmakakis**
Director of the Clinic

Professors -
Associate -

Professors

OPHTHALMOLO 4th Year, 8th Semester (mandatory)
GY Teaching: - ,Laboratory: - ,Tutorial: - , Clinical Training: 25 hours per week (2

Hours weeks)
5

ECTS Units N. Farmakakis, K. Georgakopoulos
Teachers

Description **The ocular examination**
Presentation of ophthalmic equipment and instruments
Medical History Taking
Examination of eyelids, nasolacrimal duct, conjunctiva, cornea, anterior
camera oculi, lens, Ophthalmoscopy
Visual field testing, performed one eye at a time with the contralateral eye

completely covered

Measurement of intraocular pressure - Tonometry

Eyelids

Abnormal development

Ptosis, Entropion, Ectropion, Blepharospasm

Inflammmations

Benign / Malignant tumors

Lacrimal system

Disorders of the inferior lacrimal system

Dacryocystitis

Lacrimal sac tumors

Lacrimal system dysfunction

Keratoconjunctivitis sicca, Lacrimation

Lacrimal gland disorders, Lacrimal gland tumors

Conjunctiva

Conjunctival degeneration and age-related changes

Conjunctivitis, Conjunctival tumors

Cornea

Developmental / Ectatic disorders

Corneal Defence Mechanisms

Bacterial keratitis, Viral keratitis

Non-infectious keratitis and keratopathy

Contact lens related problems

Corneal pigmentation, degeneration and dystrophy

Corneal Surgery

Refractive corneal surgery

Sclera

Trauma and Inflammations

Episcleritis

Scleritis

Lens

Abnormal lens development

Cataract, Treatment of cataract

Secondary cataracts

Ectopia lentis

Uvea

Acquired abnormalities

Inflammation (Acute iritis and iridocyclitis, Chronic iritis and iridocyclitis, choroiditis)

Sympathetic ophthalmia

Neovascularization of the iris (rubeosis iridis)

Tumors (Malignant tumors, Benign choroidal tumors)

Pupil

The pupillary light reflex

Assessing the accommodation reflex

Pharmacological influences on the pupil

Pupillary motility disorders

Glaucoma

Primary glaucomas

Secondary glaucomas

Pediatric glaucoma

Vitreous body (vitreous humour)

Posterior vitreous detachment

Pathologic changes of the vitreous body

Vitreous Haemorrhage, Vitreitis and intraocular inflammation

Retinal Neovascularization

Surgical treatment, vitrectomy

Retina

Retinal vascular disorders

Degenerative retinal lesions

Retinal detachment

Central serous chorioretinopathy

Age-related macular degeneration

Retinal dystrophies

Toxic retinopathy

Retinal vasculitis

Inflammations

Retinal tumors and hamartomas

Optic nerve

Disorders affecting the boundaries of the optic disc

Congenital disorders affecting the boundaries of the optic disc

Acquired disorders affecting the boundaries of the optic disc

Disorders with clearly defined boundaries of the optic disc

Tumors

Intraocular optic nerve tumors

Postocular optic nerve tumors

Visual pathway

Visual pathway disorders

Pre-chiasmatic lesions

Chiasmatic lesions

Post-chiasmatic lesions

Orbit

Developmental anomalies

Autoimmune disorders affecting the orbit: Graves' Disease

Orbital inflammation

Vascular disorders

Orbital tumors

Orbital surgery

Visual optics and refractive anomalies

Refraction in the eye: Emmetropia and ametropia

Refractive anomalies, Correction of refractive anomalies

Eyeglasses, Contact lenses, Prisms

Magnifying vision aids

Oculomotility and strabismus

Manifest strabismus, Types

Esotropia, Exotropia

Vertical deviations

Assessment of binocular vision

Treatment of manifest strabismus

Treatment and prevention of strabismic amblyopia

Operation

Ophthalmoplegia and Paralytic strabismus

Nystagmus

Ocular trauma

Mechanical trauma

Open globe injuries
Penetrating orbital trauma
Chemical burns
Trauma due to physical factors
Thermal injuries
Radiation injuries (ionizing radiation)
Indirect ocular trauma: Purtscher's retinopathy

PRACTICAL TRAINING IN OPHTHALMOLOGY

Ophthalmic equipment
Ocular examination techniques
Physical examination of the anterior part-Biomechanics
Case presentation
Ophthalmoscopy
Normal fundus oculi-Retinopathies
Imaging techniques in ophthalmology
Case presentation
Ocular surgery – Video presentation

**CLINICAL
TRAINING IN
OPHTHALMOLOGY**

Hours

6th Year, Semesters 11th & 12th (mandatory)

Teaching: -, Laboratory: -, Tutorial: -, Clinical Training: 35 hours per week
(2 weeks)

4

ECTS Units

Teachers

Description

N. Farmakakis, K. Georgakopoulos

Mandatory clinical training during the 6th Year of studies for 2 weeks.

**CLINICAL
TRAINING IN
OPHTHALMOLOGY**

Hours

6th Year, Semesters 11th & 12th (optional)

Teaching: -, Laboratory: -, Tutorial: -, Clinical Training: 25 hours per week
(2 weeks)

4 Units

ECTS

Teachers

N. Farmakakis, K. Georgakopoulos

Clinical training for 2 weeks, as an optional course during the 6th Year of

Description studies.

DEPARTMENT OF UROLOGY

Address: University Hospital of Patras, 4th floor
Tel.:2610-999385 , Fax: 2610-993981

CLINICAL STAFF

Director Prof. Petros Perimenis*

Professors Anastasios Athanasopoulos

Associate Professors Evaggelos Liatsikos

Assistant Professors Konstantinos Giannitsas

Lecturers

Supporting Teaching and Kassiani Kostourou

Technical Staff

***Participation in the course in Bioethics during the 3rd Year**

UROLOGY 4th Year, 8th Semester (mandatory)

Hours Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)
5

ECTS Units P. Perimenis, A. Athanasopoulos, E. Liatsikos, K. Giannitsas

Teachers

Description

COURSE OUTLINE (UROLOGY)

314.354. GENERAL

SCHOOL	Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_871	SEMESTER OF STUDIES	8 th / 4 th year
COURSE TITLE	Urology		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	25	5
COURSE TYPE	Background		
PREREQUISITE COURSES:	-		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (English)		
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=53		

315.355. LEARNING OUTCOMES

Learning outcomes

-

Level Index: 6

The main objective of this course is to provide the background knowledge of urologic disease as well as to

used in urology that are indispensable to all medical professionals regardless of further specialization.

General Abilities

Clinical decision making

316.356. COURSE CONTENT

The specialty of Urology is a fast evolving surgical one with sub-specialties that complete, but its main trunk. Significant developments during the past few years include changes in the management of urological cancer, both by minimally invasive procedures and pharmaceutical interventions compared to established methods of surgical treatment, as well as in fields such as the treatment of lower urinary tract dysfunction, the diagnosis and treatment of male sexual dysfunction and infertility and endoscopic, percutaneous and laparoscopic surgery of the urinary tract.

The aim of Urology is to establish, through class teaching with up-to-date presentations, the basic urologic knowledge that is indispensable for every medical practitioner regardless of their specialty, and also to stimulate scientific interest in developing subspecialties.

Teaching of urology is organized in 6 major axis: 1) anatomy and physiology of the genitourinary system, 2) pathophysiology of relevant symptoms, 3) oncology of the genitourinary system, 4) urinary tract dysfunction of the lower urinary tract (benign prostatic hyperplasia/ bladder outlet obstruction, urinary incontinence), 5) male sexual dysfunction and infertility and 6) Stone disease of the urinary tract.



317.357. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Audiovisual (PowerPoint)	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	lectures	70
	Total	70
STUDENT ASSESSEMENT	Written exam in Greek	
	Oral exam in English (Erasmus)	

318.358. RECOMMENDED LITERATURE

-Προτεινόμενη Βιβλιογραφία :
Smith's general urology
PRACTICAL UROLOGY: essential principles and practice (CR. CHAPPLE)
-Συναφή επιστημονικά περιοδικά:

<https://www.sciencedirect.com/journal/european-urology>
<https://www.journals.elsevier.com/the-journal-of-urology/>
<http://www.hellenicurology.com/index.php/Hellenic-Urology>

CLINICAL TRAINING IN UROLOGY

6th Year, Semesters 11th & 12th (optional)

Hours

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

4

ECTS Units

P. Perimenis, A. Athanasopoulos, E. Liatsikos, K. Giannitsas

Teachers

Description

COURSE OUTLINE (CLINICAL TRAINING IN UROLOGY)

1. GENERAL

SCHOOL	Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_1152	SEMESTER OF STUDIES	11 th -12 th / 6 th year
COURSE TITLE	Clinical Training in Urology (elective)		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS	ECTS CREDITS	

	PER WEEK	
Clinical Training	35	4
COURSE TYPE	Skill development	
PREREQUISITE COURSES:	Urology	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (English)	
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=86	

2. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •
<p>Level Index: 6</p> <p>The main objective of this course is the exposure of medical students to the entire spectrum of conditions in Urology and the development of clinical experience in the management of urologic patients through the use of diagnostic techniques as well as basic principles of treatment approaches.</p>

General Abilities
<i>Clinical decision making, development of professional and ethical responsibility</i>

3. COURSE CONTENT

During the clinical training of students on the responsibility of the Teaching Staff and all the members of the Urological Clinic, a particular learning process is carried out concerning both practical and theoretical aspects of the specialty.

Theoretical courses concerning urologic emergencies, urologic oncology, and diagnostic approach to the urologic patient and imaging techniques are held.

Students are practically trained and get familiarized with endourologic procedures (catheterization – cystoscopy – endoscopic surgery) and post-operative care and assessment of patients.

Trainees assume the responsibility of assisting with the care of patients, participate in the whole diagnostic and therapeutic procedure and present cases during daily ward rounds. They attend the outpatient clinic, participate in operations, get trained at particular units and laboratories, and have the opportunity to participate in research protocols.

During the two-week training each trainee has to go on-call twice from 2:00 pm till 8:00 pm.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face
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USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Clinical training	60
	Lectures	10
	<i>Total</i>	<i>70</i>

STUDENT ASSESSEMENT	Oral test Greek, English (Erasmus)
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5. RECOMMENDED LITERATURE

-Suggested literature :

House officer series: UROLOGY, Michael t. Macfarlane, M.d

Smith's general urology

- Relevant medical journals:

<https://www.sciencedirect.com/journal/european-urology>

<https://www.journals.elsevier.com/the-journal-of-urology/>

<http://www.hellenicurology.com/index.php/Hellenic-Urology>

ANDROLOGY**Hours**6th Year, Semesters 11th & 12th (optional)

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

4

ECTS Units

P. Perimenis, A. Athanasopoulos, K. Giannitsas

Teachers**Description****COURSE OUTLINE (ANDROLOGY)****319.359. GENERAL**

SCHOOL	Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_1172	SEMESTER OF STUDIES	11 th - 12 th / 6 th year
COURSE TITLE	Andrology (elective clinical training)		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Clinical practice	35	4
COURSE TYPE	Scientific field		
PREREQUISITE COURSES:	Urology		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO	Yes (English)		

ERASMUS STUDENTS	
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=106

320.360. LEARNING OUTCOMES

Leraning outcomes

-

Level Index: 6

The main objective of this course is the exposure of medical students to the entire spectrum of conditions of the field of andrology and the understanding of diagnostic techniques as well as basic principles of treatment approaches.

General Abilities

Clinical decision making, Working in an international setting, Development of research ideas

321.361. COURSE CONTENT

The significant evolution of Urologic subspecialties and the accumulation of knowledge through contemporary scientific progress led to the introduction of the clinical course of Andrology.

Andrology is the subspecialty of Urology that focuses on two important functional problems of the male genital system: erectile dysfunction and male sub-fertility (infertility)

In the first part of male sexual dysfunction knowledge arranged in logical sequence is presented systematically approaching the condition from the anatomical structure of the genital area concerning embryology and neurophysiology to the medical and surgical treatment. In particular chapters of priapism, Peyronie's disease, endocrine dysfunction related to the genital system as well the laboratory investigation of sexual dysfunction are presented.

In the second part of subfertility, curriculum includes elements of embryology, normal spermio-graphy, elements of immunobiology, endocrinopathies related to subfertility, cryptorchidism, testicular and epididymal infections, obstructive azoospermia, normal biopsy and biopsies typical of subfertility and surgical techniques for fertility restoration

Finally, the up-to-date evolution and different techniques concerning in vitro fertilization and other assisted reproduction techniques are presented.

Taking into consideration that sexual dysfunction is a condition concerning the couple and not just the male, the last part of the course is on female sexual dysfunction.

Male sexual dysfunction:

1) Anatomy of genital tract, 2) Embryology, 3) Male erectile dysfunction-Sexual dysfunction, 4) Normal male sexual function, 5) Prerequisites for normal erectile function, 6) Physical examination, 7) Particular laboratory tests concerning sexual dysfunction, 8) Categories of erectile dysfunction, 9) Peyronie's disease, 10) Laboratory investigation of sexual dysfunction, 11) Treatment of sexual dysfunction

Male subfertility:

1) Elements of embryology, 2) The normal spermio-graphy, 3) Elements of immunobiology for the

comprehension of possible parameters concerning male subfertility, 4) Causes of male subfertility, 5) Cryptorchidism, 6) Testicular torsion, 7) Genital tract infections, 8) Obstructive azoospermia, 9) Testicular biopsy, 10) Varicocele and microsurgery for its correction, 11) Endocrine assessment of the subfertile male, 12) Classification of male subfertility based on the spermiogram, 13) Obstruction of the deferent ducts of the testis, 14) Toxic causes or factors affecting spermatogenesis, 16) Assisted - reproduction techniques & Female sexual dysfunction

322.362. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Audiovisual (PowerPoint)	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας</i>
STUDENT ASSESSEMNT	Oral exam	
	Greek, English (Erasmus)	

323.363. RECOMMENDED LITERATURE

Contemporary Management of Impotence and Infertility, E. Tanagho, T Lue, R. Dale McClure, et al.

Wilkins, Baltimore, 1988

<https://uroweb.org/wp-content/uploads/EAU-Extended-Guidelines-2016-Edn.pdf>

<http://www.mayoclinic.org/diseases-conditions/erectile-dysfunction/diagnosis-treatment/treatment/txc-20314103>

Sexual Dysfunction, J.P. Wincze & R.B. Weisberg, The Guilford Press, N. York, 2015

-Journals: Journal Sexual Medicine, Fertility and Sterility

Address: University Hospital of Patras, 4th floor
Tel.: 2610-999385, Fax: 2610-993981

CLINICAL STAFF

Director Prof. Petros Perimenis

Professors -
Associate Anastasios Athanasopoulos, Evangelos Liatsikos

Professors
Assistant -

Professors
Lecturers Konstantinos Giannitsas
Supporting Kassiani Kostourou

Teaching and Technical Staff

***Participation in the course in Bioethics during the 3rd Year**

UROLOGY	4 th Year, 8 th Semester (mandatory)
Hours	Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)
ECTS Units	5
Teachers	P. Perimenis, A. Athanasopoulos, E. Liatsikos, K. Giannitsas

Description

The specialty of Urology is a fast evolving surgical one with sub-specialties that complete, but also broaden, its main trunk. Significant developments during the past few years include changes in the management of urological cancer, both by minimally invasive procedures and pharmaceutical interventions complementing established methods of surgical treatment, and in fields such as the treatment of lower urinary tract dysfunction, the diagnosis and treatment of male sexual dysfunction and infertility and techniques of endoscopic, percutaneous and laparoscopic surgery of the urinary tract.

The aim of Urology is to establish the background of basic urologic knowledge that is indispensable for every medical practitioner regardless of their specialty, but also to stimulate scientific interest in developing subspecialties. These are achieved through class teaching using up-to-date presentations and involvement of students in every-day clinical practice during rotation in the various units of Urology department.

Teaching of urology is organized in 6 major axes: 1) anatomy and physiology of the genitourinary system and pathophysiology of relevant symptoms, 2) oncology of the genitourinary system, 3) urinary tract infections 4) dysfunction of the lower urinary tract (benign prostatic hyperplasia/ bladder outlet obstruction, overactive bladder, incontinence), 5) male sexual dysfunction and infertility and 6) Stone disease of the urinary tract.

CLINICAL TRAINING IN UROLOGY

Hours 6th Year, Semesters 11th & 12th (optional)
Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

ECTS Units 4

Teachers P. Perimenis, A. Athanasopoulos, E. Liatsikos, K. Giannitsas

Description During the clinical training of students on the responsibility of the Teaching Staff and all the members of the Urological Clinic, a particular learning process is carried through concerning both practical and theoretical aspects of the specialty.

Theoretical courses concerning urologic emergencies, urologic oncology, diagnostic approach to the urologic patient and imaging techniques are held. Students are practically trained and get familiarized with endourologic procedures (catheterization – cystoscopy – endoscopic surgery) and post-operative care and assessment of patients.

Trainees accept the responsibility to assist with the care of patients, participate in the whole diagnostic and therapeutic procedure and present cases during daily ward rounds. They attend the ambulatory, participate in operations, get trained at particular units and laboratories, and have the opportunity to participate in research protocols. During the two-week training each trainee has to go on-call twice from 2:00 pm till 8:00 pm. Groups of eight students are constituted during the trimesters of the 6th Year.

ANDROLOGY

Hours 6th Year, Semesters 11th & 12th (optional)
Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

ECTS Units 4

Teachers P. Perimenis, A. Athanasopoulos, K. Giannitsas

Description The significant evolution of Urologic subspecialties and the accumulation of

knowledge through the contemporary scientific progress led to the edition of the textbook of Andrology. The daily requirement of teaching at the School of Medicine of the University of Patras, concerning undergraduate students, resident physicians and students attending the postgraduate studies programme of the Urologic clinic necessitated the publishing of ANDROLOGY.

At the first part of male sexual dysfunction knowledge arranged in logical sequence is presented, systematically approaching the condition of erectile dysfunction from the anatomical structure of the area concerning embryology and neurophysiology to the medical and surgical treatment. In particular chapters the condition of priapism, Peyronie's disease, and endocrinopathy are presented. In a separate chapter the clinical and laboratory investigation of sexual dysfunction is also presented in detail.

At the second part of subfertility curriculum includes elements of embryology, normal spermiogram, elements of immunobiology, endocrinopathies related to subfertility, cryptorchidism, testicular torsion, genital tract infections, obstructive azoospermia, normal biopsy and biopsies typical of subfertility syndromes and surgical techniques for rehabilitation. Finally, the up to date evolution and different techniques concerning in vitro fertilization and assisted natural conception are presented. Allowing that sexual dysfunction is a condition concerning the couple and not just the male, the last part of the course is on female sexual dysfunction.

Male sexual dysfunction:

- 1) Anatomy of genital tract
- 2) Embryology
- 3) Male erectile dysfunction-Sexual dysfunction
- 4) The normal sexual function
- 5) Prerequisites for normal erectile function
- 6) Physical examination-medication
- 7) Particular diagnostic tests concerning sexual dysfunction
- 8) Categories of erectile dysfunction
- 9) Peyronie's disease
- 10) Priapism
- 11) Treatment of sexual dysfunction

MalMale subfertility:

- 1) Elements of embryology
 - 2) The normal spermiogram
 - 3) Elements of immunobiology for the comprehension of possible parameters concerning male subfertility
 - 4) Causes of male subfertility
 - 5) Cryptorchidism
 - 6) Testicular torsion
 - 7) Genital tract infections
 - 8) Obstructive azoospermia
 - 9) Testicular biopsy
 - 10) Cirsocele
 - 11) Microsurgery
 - 12) Endocrine assessment of the subfertile male
 - 13) Classification of male subfertility based on the spermiogram
 - 14) Obstruction of the deferent ducts of the testis
 - 15) Toxic causes or factors affecting spermatogenesis
 - 16) Assisted - reproduction techniques
- Female sexual dysfunction

COURSE OUTLINE (Functional Urology)

6. GENERAL

SCHOOL	Health Sciences		
DEPARTMENT	Medical school		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_882	SEMESTER OF STUDIES	11 th -12 th /6 TH year
COURSE TITLE	Functional Urology (elective clinical training)		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		2	4
COURSE TYPE	Scientific field		
PREREQUISITE COURSES:	Urology		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (English)		
COURSE WEBPAGE (URL)			

7. LEARNING OUTCOMES

Leraning outcomes

-

Level Index 6

The main objective of this course is the exposure of medical students to the entire spectrum of conditions of the fields of functional urology and the understanding of diagnostic techniques as well as basic principles of treatment approaches

General Abilities

Clinical decision making, Working in an international setting, Development of research ideas

8. COURSE CONTENT

The significant evolution of Urologic subspecialties and the accumulation of knowledge through the contemporary scientific progress led to the need for setting-up the elective course of Functional Urology.

Functional Urology focuses on the diagnosis and treatment of conditions that disturb the dynamic balance of the urinary tract, and in particular of the lower urinary tract. Voiding dysfunctions are related to either urine storage (e.g. urinary incontinence) or bladder emptying (e.g. voiding difficulty or urinary retention).

The term functional urology is contemporary, up-to -date, term, used in the fields formerly known as neurourology, urodynamics and female urology.

Deep knowledge of lower urinary tract physiology and functional anatomy is a prerequisite for the understanding of lower urinary tract dysfunctions. Moreover, the principles of urodynamics both as a concept as well as a laboratory test for the investigation of lower urinary tract dynamic disturbances are essential for the understanding of the topic of functional urology.

The agenda of teaching andrology and functional urology includes:

1. Introduction- Physiology of urine storage and voiding
2. Urodynamic testing principles and techniques
3. Urinary incontinence, stress urinary incontinence
4. Urgency urinary incontinence, overactive bladder, mixed urinary incontinence
5. Pelvic organ prolapse
6. Urethral syndrome, urethral diverticulae
7. Fowler's syndrome, interstitial cystitis
8. Urologic complication of gynecologic surgery
9. Recurrent cystitis in women
10. Neurogenic bladder dysfunction
11. Benign Prostate Hyperplasia
12. Pathophysiology of male bladder outflow obstruction
13. Urethral stricture, enuresis
14. Nocturnal polyuria, Metabolic Syndrome and LUTS (Lower Urinary Tract Symptoms)

9. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Audiovisual (PowerPoint)

TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	20
	Seminars	3
	Review of bibliography	2
Total	25	
STUDENT ASSESMENT	Oral exam in Greek and English	

10. RECOMMENDED LITERATURE

<i>Introduction to Functional Urology, A. Athanasopoulos, Patras 2015(Greek)</i> https://www.ics.org/education/icspublications <i>-Journals: Neurourology & Urodynamics</i>

DEPARTMENT OF NEUROSURGERY

Address: University Hospital of Patras, 2nd floor
Tel.: 2610-999752, 2610-991521 , Fax: 2610-991521

CLINICAL STAFF

Director

-

Professors

Associate Constantine Constantoyiannis, George Gatzounis

Professors V. Panagiotopoulos

Assistant -

Professors

Lecturers

Supporting Sofia Bitsi

Teaching

and

Technical

Staff

*** Participation in the Clinical Training in Neurology during the 5th Year and the optional course in Clinical Neuroanatomy-
Molecular Anatomy during the 3rd Year**

CL 5th Year, Semesters 9th & 10th

INICAL TRAINING IN NEUROSURGERY

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

8

C. Constantoyiannis, G. Gatzounis, V. Panagiotopoulos

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COURSE OUTLINE

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TS Units 324. **GENERAL**

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SCHOOL	OF HEALTH SCIENCES		
DEPARTMENT	OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED 961	SEMESTER OF STUDIES	9 th or 10 th
COURSE TITLE	Neurology-Neurosurgery		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures		5	
Clinical practice		35	
			8
COURSE TYPE		Field of science	
PREREQUISITE COURSES:		No	

TEACHING AND ASSESSMENT LANGUAGE:	Greek (or English)
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	-

325. LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> • <p>The main goal of student training, including 3-week training in the neurological department and training in the Department of Neurosurgery, is the implementation of theoretical knowledge in diagnosis and treatment of diseases of the central and peripheral nervous system and the muscles.</p> <p>From the first day, an effort is made for the students to attend and participate in all clinical activities together with the medical staff. There is a morning briefing where the new admissions from the out-patient clinic and ER are discussed. Next, there is a visit of in-patients, during which a detailed history for each patient is presented and the clinical signs, laboratory investigations, the potential diagnosis and the therapeutic possibilities (if any) are discussed. From the 2nd week students are encouraged to take the history and to perform clinical examination under supervision in a new patient and then to present it to the ward meeting prior to the ward round.</p> <p>Students are divided in small subgroups of 3-4, in order to attend the out-patient clinics (general neurology, neurosurgery, etc.).</p>

specific such as neuromuscular diseases & Neurosurgery), which are performed 3 times a week, as well as the examination in the electromyography and electroencephalography laboratories. Students should also attend, at least once, a shift in the ER (duration 5-6 hours).

Short lectures (45 minutes) on topics of clinical interest are given 4 times a week by university faculty and national health system members and residents in neurology. For example the examination of motor system, of cranial nerves, of mental function, of extrapyramidal syndromes, is analyzed. Particular attention is paid to the correct use of test organs (neurological hammer, vibration tune) and the details of clinical tests (such as Barre, Romberg) and sings (babinski).

Demonstration of special procedures such as lumbar puncture (CSF test) is performed. Finally, students are welcome to attend lectures for trainees in neurology such as the weekly neuro-radiological meetings.

General Abilities

By the end of this course the student will be able to:

- Handle acute or chronic cases of neurological diseases
- Record a full medical history
- Perform a complete neurological examination
- Participate in discussion of differential diagnosis of the most common neurological diseases/ syndromes
- Evaluate laboratory results in the context of a particular clinical phenotype

- Recognize the clinical symptoms, signs, the natural course and treatment of conditions such as stroke, epilepsy, polyneuropathy, Parkinson's disease, myasthenia, brain tumors, spine diseases, subarachnoid hemorrhage, head injury.
- Acquire experience as an observer in neurosurgical & neuroendovascular interventions
- Develop a professional attitude toward the patients and explain to them in an understandable way their condition and the potential outcomes

326. COURSE CONTENT

1. Neurological terminology
2. Obtain a medical history
3. Neurological detailed examination. In particular, examination of comatose patients, patients with cranial nerve lesions, impairment of gait and stance, mental function impairment, episodes of loss of consciousness.
4. Clinical manifestations of epilepsy, Parkinson and other extrapyramidal diseases, stroke, multiple sclerosis, neuromuscular diseases (including myasthenia) and of any rare diseases (if such cases are seen in the clinic at the time)
5. Demonstration of procedure at the bedside
6. Patients in the ER (stroke/thrombolysis, syndrome Guillain Barre, acute severe headache, acute

paraparesis)

7. Out-patient clinic – write a prescription
8. Basic principles of electroencephalography – electromyography
9. Clinical manifestations of brain tumors, spine diseases, subarachnoid hemorrhage & head injury.

327. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Small group teaching, performing clinical examination of patients under supervision	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Short lectures with the use of PowerPoint Search for new information in dedicated scientific sites on the Internet	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξα</i>
	<i>Participation in activities of the neurological department</i>	105
	Clinical practice	35x4
	Lectures	15
	<i>Private study</i>	50
	<i>Total hours for the course</i>	<i>310</i>
STUDENT ASSESSEMNT	At the end of the training, the students have to pass	

	<p>examination on the clinical skills/knowledge and patients' management. Their overall involvement in the clinical activities is co-assessed in the final grade. If a student is not able to have the test at the defined day, the exam may be postponed by 4 weeks so that they can be examined together with the students of the next group. If a student failed twice the final exam, they have to repeat all or part of the 3-week training.</p>
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328. RECOMMENDED LITERATURE

1. NEXT SUMMARY OF NEUROLOGY

AUTHORS: MISULIS-HEAD

Scientific Editing: Panag. Papathanassopoulos

PUBLICATION: 2011

ISBN: 978-960-94-2717-3

CODE. EYΔOΞOY: 13255867

Publisher: Gotsis Konstantinos & Co.

2. NEUROLOGY

AUTHOR: Neumann Masuhr

Editor: Nikos Vlaikidis

ISBN: 978-960-6894-06-0

KOD. EYDOXOU: 3593

Pages: 600

Publisher: Rotonda

3. HANDBOOK OF NEUROSURGERY

Mark S. Greenberg

ISBN: 978-1-60406-326-4

Thieme

4. e-class lessons

CLINICAL TRAINING IN NEUROSURGERY 6th Year, Semesters 11th & 12th (optional)

Hours Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

ECTS Units 4

Teachers C. Constantoyiannis, G. Gatzounis, V. Panagiotopoulos

Description

COURSE OUTLINE

329.364. GENERAL

SCHOOL	OF HEALTH SCIENCES		
DEPARTMENT	OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED 1170	SEMESTER OF STUDIES	11 th
COURSE TITLE	Neurosurgery		
INDEPENDENT TEACHING ACTIVITIES	TEACHING	ECTS CREDITS	

		HOURS PER WEEK	
Lectures		5	
Clinical practice		35	
			4
COURSE TYPE	Field of science		
PREREQUISITE COURSES:	No		
TEACHING AND ASSESSMENT LANGUAGE:	Greek (or English)		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	-		

330.365. LEARNING OUTCOMES

<p>Learning outcomes</p> <ul style="list-style-type: none"> •
<p>The main goal of student training includes 2-week advanced practical training in the Department of Neurosurgery and is the implementation of theoretical knowledge in diagnosis and treatment of neurosurgical diseases of the central and peripheral nervous system.</p> <p>From the first day, an effort is made for the students to attend and participate in all clinical activities.</p>

with the medical staff. There is a morning briefing where the new admissions from the out-patient clinic and ER are discussed. Next, there is a visit of in-patients, during which a detailed history for each patient is presented and the clinical signs, laboratory investigations, the potential diagnosis and the therapeutic possibilities (if any) are discussed. From the 2nd week students are encouraged to take the history and perform clinical examination under supervision in a new patient and then to present it to the doctors' meeting prior to the ward round.

Students are divided in small subgroups of 3-4, in order to attend the out-patient clinics of Neurosurgery. Students should also attend, at least once, a shift in the ER (duration 5-6 hours).

Short lectures (45 minutes) on topics of clinical interest are given 4 times a week by university faculty and national health system members and residents in neurology. For example the examination of motor system, of cranial nerves, of mental function, of extrapyramidal syndromes, is analyzed. Particular attention is paid to the recognition of neurosurgical brain and spinal diseases according to their clinical manifestations.

Finally, students are welcome to attend lectures in the neurosurgical meetings.

General Abilities

By the end of this course the student will be able to:

- Handle acute or chronic cases of neurosurgical diseases
- Record a full medical history
- Perform a complete neurological examination

- Participate in discussion of differential diagnosis of the most common neurosurgical diseases/ syndromes
- Evaluate laboratory results in the context of a particular neurosurgical disease
- Recognize the clinical symptoms, signs, the natural course and treatment of conditions such as hemorrhagic stroke, brain tumors, spine diseases, subarachnoid hemorrhage, head injury.
- Acquire experience as an observer in neurosurgical & neuroendovascular interventions
- Develop a professional attitude toward the patients and explain to them in an understandable way their condition and the potential outcomes

331.366. COURSE CONTENT

1. Obtain a neurosurgical medical history
2. Neurological detailed examination of neurosurgical patients
3. Patients in the ER
4. Out-patient neurosurgical clinic – write a prescription
5. Clinical manifestations of brain tumors, spine diseases, subarachnoid hemorrhage & head injury.

332.367. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Small group teaching, performing clinical examination of patients under supervision	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Short lectures with the use of PowerPoint Search for new information in dedicated scientific sites on the Internet	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	<i>Participation in activities of the neurological department</i>	105
	Clinical practice	70
	Lectures	15
	<i>Private study</i>	50
	Total hours for the course	240
STUDENT ASSESSEMNT	At the end of the training, the students have to pass an oral examination on the clinical skills/knowledge and patients' management. Their overall involvement in the clinical activities is co-assessed in the final grade. If a student is not able to have the test at the defined day, the exam may be postponed by 4 weeks so that they can be examined together with the students of the next group. If a student failed twice the final exam, they have to repeat all or part of the 3-week training.	

333.368. RECOMMENDED LITERATURE

1. HANDBOOK OF NEUROSURGERY

Mark S. Greenberg

ISBN: 978-1-60406-326-4

Thieme

2. Μαθήματα αναρτημένα στο e-class

DEPARTMENT OF OTORHINOLARYNGOLOGY
DIVISION OF SURGERY
OTORHINOLARYNGOLOGY

Address: General University Hospital of Patras,
Building A, 1st floor, tel.: +30 2613 603264 – 265
Fax: +30 2610 993986
E-mail: vdanielidis@upatras.gr – vdanielidis@hotmail.com

Faculty:

Professor – Head of the Department :	Vassilios G. Daniilidis
Professor	Stefanos Naxakis
Associate Professors:	Nicholas Mastronikolis Theodoros Papadas, Stefanos Naxakis
Assistant Professor:	Nicholas Mastronikolis
Administrative personnel:	Antigoni VakrouGeorgia Thua

OTORHINOLARYNGOLOGY 4th year, 2nd semester: Mandatory

Hours : 4 per week

ECTS Units 5

Teachers Professor, Vassilios G. Daniilidis
Theodoros Papadas, Associate Professor
Stefanos Naxakis, Associate Professor
Nicholas Mastronikolis, Ass.istant Professor

COURSE OUTLINE

334.369. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED 841	SEMESTER OF STUDIES	8th semester
COURSE TITLE	OTORHINOLARYNGOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
LECTURES AND PRACTICAL TRAINING	25 HOURS/WEEK	5	
	TOTAL: 2 WEEKS	5	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in english)		
COURSE WEBPAGE (URL)	http://www.med.upatras.gr		

335.370. LEARNING OUTCOMES

Leraning outcomes

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The course is the main introductory lesson in Otorhinolaryngology. The aim of the course is the students to acquire the basic knowledge that they should have in the subject of Otorhinolaryngology. The subject includes the main body of the specialty as well as the individual sub-specialties such as Audiology & Neurology, Rhinology & Plastic Surgery, Head & Neck Oncology and Pediatric-Otorhinolaryngology. Clinical Practice includes the participation of the students in the ENT Clinic, the surgery, the outpatient clinics, the Audiology Laboratory.

General Abilities

1. Search, analyze and synthesize data and information, using the necessary technologies.
2. Adapting to new situations.
3. Decision making.
4. Promoting free and creative thinking.

336.371. COURSE CONTENT

Patient with hearing loss and tinnitus.

1. Case presentation.
2. Basic anatomy and physiology of the audiovestibular organ.
3. Symptomatology of otologic diseases.
4. Imagine evaluation of the petrous bone.
5. Subjective and objective methods of auditory clinical assessment.
6. Distinction of central and peripheral vertigo.
7. Nosological groups of otologic conditions.

Patient with otalgia and effusion.

1. Case presentation.

2. Otitis externa.
3. Infections of the upper respiratory tract and acute otitis media in children and in adults.
4. Chronic otitis media: initial symptoms, course and effects on hearing and balance of the patient.
5. Intratemporal and intracranial complications of chronic cholesteatomatous otitis media.
6. Definition and types of cholesteatoma.
7. Otogenic facial nerve paralysis.
8. Surgical procedures of the middle ear and the mastoid process. Surgical reconstructions of the tympano-ossicular system (myringoplasty, ossiculoplasty).
9. The entity of otospongiosis and the management of its consequences.

Patient with vertigo and hearing loss.

1. Case presentation.
2. Acoustic neuroma.
3. Paroxysmal positional vertigo and vestibular neuritis.
4. Demyelinating and vascular lesions of the Central Nervous System.
5. Study of vestibular symptoms in nosological entities of the organ of balance.
6. Conservative and surgical rehabilitation of functional disorders of the vestibular system.

Patient with nasal breathing difficulty.

1. Case presentation.
2. Basic anatomy and physiology of the nose and paranasal sinuses.
3. Symptomatology and examination methods of the nose.
4. Imagine investigation.
5. Nosological entities of the nose and paranasal sinuses.

Patient with epistaxis.

1. Case presentation.
2. Causes of epistaxis.
3. Nasopharyngeal structures and pathological entities.
4. Facial skeleton trauma.
5. Congenital anomalies of the palate and face.
6. Manifestations of systemic disorders from the nasal cavity.

Patient with painful dysphagia.

1. Case presentation.
2. Basic anatomy of the mouth, oropharynx and hypopharynx.
3. Symptomatology – Signs and symptoms of oral and pharyngeal diseases.
5. Bacterial flora, pathogens, antimicrobial agents.
6. Oncology of the mouth, oropharynx, hypopharynx.

Patient with neck swelling.

1. Case presentation.
2. Anatomy and physiology of the neck and salivary glands.
3. Symptomatology, Signs and symptoms and examination methods of the neck and salivary glands.
4. Benign neck diseases.
5. Causes of lymphadenopathy.
6. Salivary gland diseases.
7. Surgical management, radiotherapy.

Patient with voice hoarseness.

1. Case presentation.
2. Anatomy and physiology mission of the larynx.
3. Congenital disorders of the larynx.
4. Laryngitis in children and in adults, severity of the diseases and conservative management.
5. Benign neoplasms of the larynx.
6. Disorders of the voice, principles of phonosurgery.
7. Laryngeal cancer (epidemiology, symptoms, biological behaviour, metastases, staging).
8. Modern therapeutic management of laryngeal cancer and organ preservation protocols.
9. Voice restoration and social rehabilitation of the larygectomized patient.

Patient with stridor and dyspnea breathing.

1. Case presentation.
2. Extra- and intrathoracic obstruction.
3. Upper airway foreign bodies.

4. Laryngeal paralysis – modern therapeutic surgical restorations.
5. Croup syndromes.

Emergency care – Clinical skills - ORL manifestations of systemic diseases.

1. Parapharyngeal abscesses.
2. Laryngeal yedema.
3. Potential airway obstruction, tracheotomy.
4. Clinical skills for the General Practitioner.
5. ORL manifestations of systemic diseases.

337.372. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Direct (face to face).	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Specialized software through E-CLASS Platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	40
	Clinical Practice	35
	Autonomous study	50
	Total number of hours for the Course (25 hours of work-load per ECT credit)	125 h (5 ECTS)
STUDENT ASSESSEMNT	Written final examination with multiple choice questions with ranking difficulty on the basis of the issues and subjects presented during theoretical courses.	

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338.373. RECOMMENDED LITERATURE

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OTORHINOLARYNGOLOGY 6th year, 11th & 12th semester: Mandatory

Hours : 35 per week

ECTS Units 4

Teachers Professor, Vassilios G. Daniilidis
 Stefanos Naxakis, Professor
 Nicholas Mastronikolis, Ass. Professor
 Professor, Vassilios G. Daniilidis
 Theodoros Papadas, Associate Professor
 Stefanos Naxakis, Associate Professor
 Nicholas Mastronikolis, Assistant Professor

COURSE OUTLINE

339.374. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_ 1126	SEMESTER OF STUDIES	11 th & 12 th semester
COURSE TITLE	CLINICAL TRAINING IN OTORHINOLARYNGOLOGY – Mandatory		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	35 hours/ week		
	2 weeks	4 ECTS	
	TOTAL: 70 hours		

COURSE TYPE	Field of Science	
PREREQUISITE COURSES:		
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in english)	
COURSE WEBPAGE (URL)	http://www.med.upatras.gr	

340.375. LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> • <p>Medical students in their 6th year mandatorily attend the Otorhinolaryngology Clinic for 2 weeks. Training of the students is carried out under the supervision of the ORL Clinic Teaching Faculty with the objective of acquiring experience in both practical and theoretical aspects of the specialty.</p> <p>Courses taught include Otorhinolaryngological emergency care, Head and Neck oncology and the diagnostic approach of patients. Students are required to attend rounds carried out daily by the ORL Clinic doctors and to participate in all the diagnostic and therapeutic procedures. They also attend the outpatient department of the clinic, participate in operations and are trained at the Units and Labs of the Clinic (Neurootology – ElectroNystagmography, Audiometry – Tympanometry, Speech therapy, Endoscopic ORL).</p> <p>Nine (9) presences are mandatory during the ten days of the clinical training.</p> <p>At the end of clinical training students are evaluated by their supervisors.</p>
General Abilities

1. Search, analyze and synthesize data and information, using the necessary technologies.
2. Teamwork
3. Respect for diversity and multiculturalism
4. Demonstration of social, professional and moral responsibility and sensitivity to gender issues
5. Exercise of criticism and self-criticism
6. Promoting free and creative thinking.

341.376. COURSE CONTENT

Familiarising students with the **examination** and **diagnostic methods** in the specialty of Otorhinolaryngology.

- Otoscopy
- Laryngoscopy
- Rhinoscopy
- Flexible endoscopy
- Audiometry
- Tympanometry
- Electro Nystagmography
- Auditory Brain Stem Response

342.377. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Direct (face to face).	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Specialized software through E-CLASS Platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Clinical Practice	60
	Autonomous study	40
	Total number of hours for the Course (25 hours of work-load per ECT credit)	100 h (5 ECTS)
STUDENT ASSESSEMNT	Oral Student Examination at the End of Clinical Exercise	

343.378. RECOMMENDED LITERATURE

OTORHINOLARYNGOLOGY 6th year, 11th & 12th semester: Elective

Hours : 35 per week

ECTS Units 4

Teachers *Professor, Vassilios G. Daniilidis*

Stefanos Naxakis, Professor

Nicholas Mastronikolis, Ass. Professor

Professor, Vassilios G. Daniilidis

Theodoros Papadas, Associate Professor

Stefanos Naxakis, Associate Professor

Nicholas Mastronikolis, Assistant Professor

DESCRIPTION

COURSE OUTLINE

344.379. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_ 111151	SEMESTER OF STUDIES	11 th & 12 th semester
COURSE TITLE	CLINICAL TRAINING IN OTORHINOLARYNGOLOGY – Elective		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		35 hours/ week	

	2 weeks	4 ECTS
	TOTAL: 70 hours	
COURSE TYPE	Field of Science	
PREREQUISITE COURSES:		
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in english)	
COURSE WEBPAGE (URL)	http://www.med.upatras.gr	

345.380. LEARNING OUTCOMES

Leraning outcomes
•
Medical students in their 6 th year optionally attend the Otorhinolaryngology Clinic for 2 weeks. Training of the students is carried out under the supervision of the ORL Clinic Teaching Faculty with the objective of acquiring experience in both practical and theoretical aspects of the specialty.
General Abilities
<ol style="list-style-type: none"> 1. Search, analyze and synthesize data and information, using the necessary technologies. 2. Teamwork 3. Respect for diversity and multiculturalism

- 4. Demonstration of social, professional and moral responsibility and sensitivity to gender issues
- 5. Exercise of criticism and self-criticism
- 6. Promoting free and creative thinking.

346.381. COURSE CONTENT

Courses taught include Otorhinolaryngological emergency care, Head and Neck oncology and the diagnostic approach of patients. Students are required to attend rounds carried out daily by the ORL Clinic doctors and to participate in all the diagnostic and therapeutic procedures. Cases that present diagnostic problems are chosen to be approached by the students. A discussion on those cases follows. The students also attend the outpatient department of the clinic, participate in operations and are trained at the Units and Labs of the Clinic (Neurotology – Electro Nystagmography, Audiometry – Tympanometry, Speech therapy, Endoscopic ORL).

Nine (9) presences are mandatory during the ten days of the clinical training.

At the end of clinical training, students are evaluated by their supervisors.

347.382. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Direct (face to face).	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Specialized software through E-CLASS Platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Clinical Practice	60
	Autonomous study	40
	Total number of hours for the Course (25 hours of work-load per ECT credit)	100 h (5 ECTS)

STUDENT ASSESSEMNT	Oral Student Examination at the End of Clinical Exercise		

348.383. RECOMMENDED LITERATURE

DEPARTMENT OF ORTHOPAEDICS

Address: University Hospital of Patras, 2nd floor
Tel.: 2610-999555, 2610-999556, Fax: 2610-994579

CLINICAL STAFF

Director Prof. Ilias Panagiotopoulos

Professors Minos Tillianakis, Panagiotis Megas

Associate Professors -

Assistant Professors Ioannis Gliatis

Lecturers Andreas Panagopoulos

Supporting Teaching and -

Technical Staff

Administrative Staff: Athina Lioli

***Participation in the Clinical Training in Surgery during the 5th Year and the course in Bioethics during the 3rd Year**

ORTHOPAEDICS**Hours**4th Year, 8th Semester (mandatory)

Teaching: 50 , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

5

ECTS Units

I. Panayiotopoulos, M. Tyllianakis, P. Megas, I. Gliatis, A. Panagopoulos

Teachers**General academic targets****Description****Educational objectives****COURSE OUTLINE****349.384. GENERAL**

SCHOOL	MEDICINE		
DEPARTMENT	ORTHOPAEDICS		
LEVEL OF COURSE	UNDERPRE-GRADUATE		
COURSE CODE	MED_861	SEMESTER OF STUDIES	8 TH , (9 TH or 10 th)
COURSE TITLE	ORTHOPAEDICS & TRAUMATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
LECTURES	25 (2 weeks in 8 th semester)	2.5	
CLINICAL PRACTICE	25 (2 weeks in 9 th or 10 th semester)	2.5	
	Total of 50 h of lectures and 50 h of clinical practice	5	
COURSE TYPE	Scientific area, expertise		
PREREQUISITE COURSES:			

TEACHING AND ASSESSMENT LANGUAGE:	Greek, English
THE COURSE IS OFFERED TO ERASMUS STUDENTS	yes
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/main/portfolio.php

350.385. LEARNING OUTCOMES

<p>Lerning outcomes</p> <ul style="list-style-type: none"> •
<p>This course is an introduction to General Orthopaedics & Traumatology</p> <p>Basic knowledge of Orthopaedics is offered to Medical students that can be applied in their future pract doctors in:</p> <ol style="list-style-type: none"> 1. Health centers 2. Small provincial offices 3. Regional hospitals as on call doctors of the surgical department 4. Private offices <p>General Educational Goals</p> <p>Upon completion of studentship the students would be able to:</p> <ol style="list-style-type: none"> 1. Identify and manage life-threatening injuries (i.e. pelvic fractures, multi-trauma patients) 2. Identify and manage various orthopaedic emergencies (i.e. Cauda equina syndrome, ampu fractures, compartment syndromes). 3. Identify and manage various acute (non-urgent) orthopaedic injuries (fractures, dislocations, ir provide initial stabilization (plaster cast, bracing).

4. Identify and apply primary care in chronic orthopaedic diseases, (sciatica, back pain, arthritis, tendinitis) and proceed to initial radiological and biochemical investigation before referral to appropriate doctors.
5. Identify possible complications for his/her practice and manage them accordingly.
6. To communicate with his/her colleagues describing the problem.

General Abilities

- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

351.386. COURSE CONTENT

Lectures

- Bone metabolism: micro-anatomy and physiology
- Osteoporosis – metabolic diseases
- Fractures of pelvis & acetabulum
- Bone & Joint infections
- Inflammatory & degenerate arthritis
- injuries & diseases of the Shoulder
- injuries & diseases of the Elbow
- Injuries & diseases of wrist and hand
- Injuries & diseases of the hip
- Injuries & diseases of the knee
- Injuries & diseases of the foot and ankle
- Injuries & diseases of the spine
- Soft tissue tumors
- Bone tumors
- Paediatric Orthopaedics (injuries and diseases in children)

Clinical Practice

Introduction – Learning outcomes and goals
Immobilization of fractures (casts, braces)
Clinical examination: shoulder and elbow
Clinical examination: hip and pelvis
Clinical examination: knee
Clinical examination: wrist and hand - carpal tunnel syndrome
Adult reconstruction (hip and knee arthroplasty)
Management of the polytrauma patient – Damage Control Orthopaedics
Compartment syndrome – pulmonary and fat embolism
Introduction to physiatry and rehabilitation
Rehabilitation of the orthopaedic patient

Management of spinal cord injuries
 Management of cerebral injuries and stroke
 Management of decubitus
 Research opportunities in musculoskeletal diseases
 Workshop in patients with spinal cord injury
 Workshop in patients with head injury and stroke
 Fragility fractures
 Techniques of suturing in skin lacerations

352.387. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Class, ward rounds, operation theater, A & E department, Rehabili	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester W</i>
	Lectures	30
	Clinical practice - lessons	40
	Interactive teaching	10
	Ward rounds	5
	Operation theater	5
	Practice in A & E and rehabilitation center	5
	Self-contained study	30
	Σύνολο Μαθήματος	125

	<i>(25 ώρες φόρτου εργασίας ανά πιστωτική μονάδα)</i>	
STUDENT ASSESSMENT	I. Written examination (50%) [multiple choice or full text] II. Oral examination (50%) in small groups after completion of clinical practice	

353.388. RECOMMENDED LITERATURE

<p>Miller's Review of Orthopaedics, Book by Assistant Professor of Psychiatry Mark D Miller, MD</p> <p>Apley's System of Orthopaedics and Fractures. Textbook by Alan Graham Apley and Louis Solomon</p> <p>Essential Orthopaedics and Trauma Textbook by David J Dandy</p> <p>Clinical orthopaedic examination Textbook by Ronald McRae</p> <p>McRae's Orthopaedic Trauma and Emergency Fracture Management Book by Alasdair J Gray, Samuel and Timothy O. White</p>

CLINICAL TRAINING IN ORTHOPAEDICS

Hours

6th Year, Semesters 11th & 12th (optional)

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

4

ECTS Units

Teachers

I. Panagiotopoulos, M. Tyllianakis, P. Megas, I. Gliatis, A. Panagopoulos

PHYSICAL MEDICINE &

4th Year, Semesters 8th (optional)

REHABILITATION Hours

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

ECTS Units

5

Teachers

I. Panagiotopoulos, M. Tyllianakis, P. Megas, I. Gliatis, A. Panagopoulos

Description**COURSE OUTLINE****354.389. GENERAL**

SCHOOL	MEDICINE		
DEPARTMENT	ORTHOPAEDICS		
LEVEL OF COURSE	UNDERPRE-GRADUATE		
COURSE CODE	MED_1158	SEMESTER OF STUDIES	8 TH , (911 TH or 102 TH)
COURSE TITLE	ORTHOPAEDICS & TRAUMATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
LECTURES	25 (2 weeks in 8 th semester)	22.5	
CLINICAL PRACTICE	25 (2 weeks in 9 th or 10 th semester)	2.5	
	Total of 50 h of lectures and 50 h of clinical practice	45	
COURSE TYPE	Scientific area, expertise		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek, English		
THE COURSE IS OFFERED TO	yes		

ERASMUS STUDENTS	
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/main/portfolio.php

355.390. LEARNING OUTCOMES

Learning outcomes

-

This course is an introduction to General Orthopaedics & Traumatology

Basic knowledge of Orthopaedics is offered to Medical students that can be applied in their future practice as general doctors in:

1. Health centers
2. Small provincial offices
3. Regional hospitals as on call doctors of the surgical department
4. Private offices

General Educational Goals

Upon completion of studentship the students would be able to:

1. Identify and manage life-threatening injuries (i.e. pelvic fractures, multi-trauma patients)
2. Identify and manage various orthopaedic emergencies (i.e. Cauda equina syndrome, amputations, open fractures, compartment syndromes).
3. Identify and manage various acute (non-urgent) orthopaedic injuries (fractures, dislocations, infections) and provide initial stabilization (plaster cast, bracing).
4. Identify and apply primary care in chronic orthopaedic diseases, (sciatica, back pain, arthritis, tendinitis) and proceed to initial radiological and biochemical investigation before referral to appropriate

doctors.

5. Identify possible complications for his/her practice and manage them accordingly.
6. To communicate with his/her colleagues describing the problem.

General Abilities

- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

356.391. COURSE CONTENT

Lectures

- Bone metabolism: micro-anatomy and physiology
- Osteoporosis – metabolic diseases
- Fractures of pelvis & acetabulum
- Bone & Joint infections
- Inflammatory & degenerate arthritis
- injuries & diseases of the Shoulder
- injuries & diseases of the Elbow
- Injuries & diseases of wrist and hand
- Injuries & diseases of the hip

- Injuries & diseases of the knee
- Injuries & diseases of the foot and ankle
- Injuries & diseases of the spine
- Soft tissue tumors
- Bone tumors
- Paediatric Orthopaedics (injuries and diseases in children)

Clinical Practice

Introduction – Learning outcomes and goals

Immobilization of fractures (casts, braces)

Clinical examination: shoulder and elbow

Clinical examination: hip and pelvis

Clinical examination: knee

Clinical examination: wrist and hand - carpal tunnel syndrome

Adult reconstruction (hip and knee arthroplasty)

Management of the polytrauma patient – Damage Control Orthopaedics

Compartment syndrome – pulmonary and fat embolism

Introduction to physiatry and rehabilitation

Rehabilitation of the orthopaedic patient

Management of spinal cord injuries

Management of cerebral injuries and stroke

Management of decubitus

Research opportunities in musculoskeletal diseases

Workshop in patients with spinal cord injury

Workshop in patients with head injury and stroke

Fragility fractures

Techniques of suturing in skin lacerations



357.392. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Class, ward rounds, operation theater, A & E department, Rehabilitation center	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	30
	Clinical practice - lessons	40
	Interactive teaching	10
	Ward rounds	5
	Operation theater	5
	Practice in A & E and rehabilitation center	5

	Self-contained study	30
	<i>Σύνολο Μαθήματος (25 ώρες φόρτου εργασίας ανά πιστωτική μονάδα)</i>	125
STUDENT ASSESSMENT	<p>I. Written examination (50%) [multiple choice or full text]</p> <p>II. Oral examination (50%) in small groups after completion of clinical practice</p>	

358.393. RECOMMENDED LITERATURE

Miller's Review of Orthopaedics, Book by Assistant Professor of Psychiatry Mark D Miller, MD

Apley's System of Orthopaedics and Fractures. Textbook by Alan Graham Apley and Louis Solomon

Essential Orthopaedics and Trauma Textbook by David J Dandy

Clinical orthopaedic examination Textbook by Ronald McRae

McRae's Orthopaedic Trauma and Emergency Fracture Management Book by Alasdair J Gray, Samuel P. Mackenzie, and Timothy O. White

PHYSICAL MEDICINE & REHABILITATION Hours 8th Year, Semesters 8th & 9th (optional)

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week (2 weeks)

ECTS Units

5

Teachers

I. Panagiotoopoulos, M. Tyllianakis, P. Megas, I. Gliatis, A. Panagopoulos

CLINICAL TRAINING IN ORTHOPAEDICS

Hours

ECTS Units

Teachers

COURSE OUTLINE

359.394. GENERAL

SCHOOL	MEDICINE	
DEPARTMENT	REHABILITATION	
LEVEL OF COURSE	UNDERPRE-GRADUATE	
COURSE CODE	MED_880	SEMESTER OF STUDIES 8 TH
COURSE TITLE	PHYSICAL MEDICINE & REHABILITATION	
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS
LECTURES	4 h/week	4
CLINICAL PRACTICE	1 h/week	1
	Total of 20 h of lectures and 5 h of clinical practice	5

COURSE TYPE	Scientific area, expertise
PREREQUISITE COURSES:	
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/main/portfolio.php

360.395. LEARNING OUTCOMES

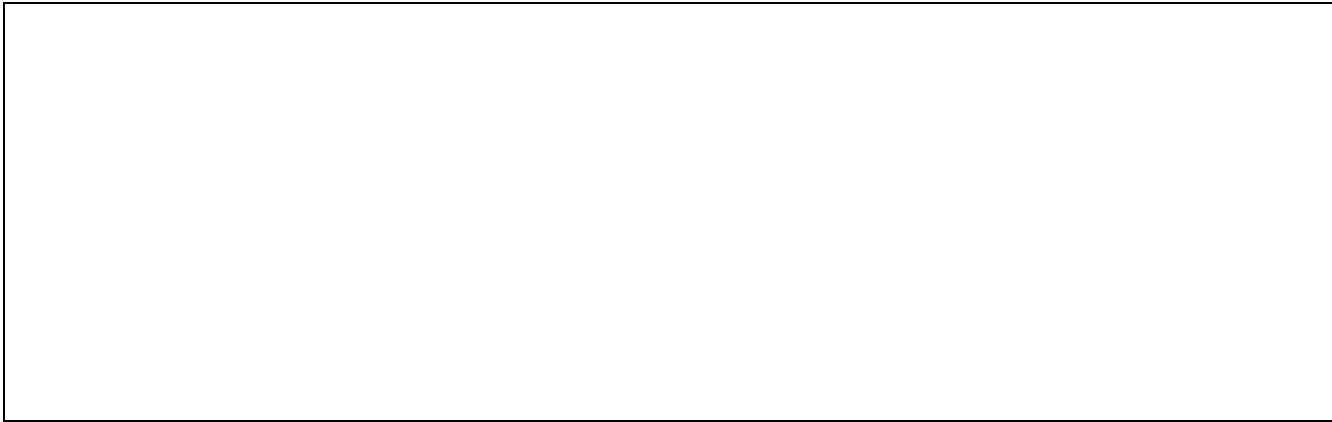
Leraning outcomes
<p>•</p> <p>This course is an introduction in Physical Medicine & Rehabilitation</p> <p>Basic knowledge in Physical Medicine & Rehabilitation is offered to Medical students that can be applied in their future practice as general doctors in:</p> <ol style="list-style-type: none"> 1. Health centers 2. Small provincial offices 3. Regional hospitals as on call doctors of the surgical department 4. Private offices <p>General Educational Goals</p> <p>Upon completion of studentship the students would be able to:</p> <ol style="list-style-type: none"> 1. Understand the principles of rehabilitation and the bio-psycho-social model of the international classification of functioning, disability and health (ICF).

2. Be familiar with the physiatrist evaluation in determining the underlying diagnosis.
3. Be familiar with the assessment of functional capacity, activity and participation and their ability to change.
4. Be familiar with the design, the organization and the application of a rehabilitation plan.
5. Be familiar with the team dynamics and the principles and potential of physiotherapy, occupational therapy, speech therapy and other rehabilitation therapies.
6. Be familiar with the rehabilitation protocols in specific neurological and musculoskeletal conditions
7. Identify possible complications for his/her practice and manage them accordingly.

General Abilities

- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

3. COURSE CONTENT



4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Class, ward rounds, physiotherapy, occupational therapy and speech therapy departments.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	20
	Clinical practice	5
	<i>(25 ώρες φόρτον εργασίας ανά πιστωτική</i>	<i>25</i>

	<i>μονάδα)</i>	
STUDENT ASSESSMENT	I. Written examination (50%) [multiple choice or full text] II. Oral examination (50%) in small groups after completion of clinical practice	

5. RECOMMENDED LITERATURE

European Academy of Rehabilitation Medicine, European Federation of Physical and Rehabilitation Medicine, European Union of Medical Specialists (Physical and Rehabilitation Medicine Section): White Book on Physical and Rehabilitation Medicine. Universidad Complutense de Madrid; 1989

UEMS-PRM-Section: Definition of Physical and Rehabilitation Medicine. www.euro-prm.org. 2005.

Stucki G, Ewert T, Cieza A. Value and application of the ICF in rehabilitation medicine. Disability & Rehabilitation. 2002; 24 (17): 932-8.

Bent N, Tennant A, Swift T, Posnett J, Chamberlain MA. Team approach versus ad hoc health services for young people with physical disabilities: a retrospective cohort study Lancet 2002; 360 (9342): 1280-1286.

Tennant A. Principles and Practice of Measuring Outcome. In: Advances in Physical Medicine & Rehabilitation: Assessment in Physical Medicine and Rehabilitation, Eds. Barat M, Franchignoni F. Maugeri Foundation Books, Pavia. (ISBN 88-7963-180-2) 2004.

W.R.Frontera, J.K.Silver, T.D.Rizzo. Essentials of Physical Medicine & Rehabilitation: Musculoskeletal Disorders, Pain, and Rehabilitation. Second Edition. Saunders Elsevier (ISBN 978-1-4160-4007-1) 2008.

Randall L. Braddom. Handbook of Physical Medicine & Rehabilitation. Second edition.Saunders (ISBN 0721694489, 9780721694481) 2004.

COURSE OUTLINE

396. GENERAL

SCHOOL	SCIENCES OF HEALTH, SCHOOL OF MEDICINE		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_599	SEMESTER OF STUDIES	FIFTH (5)
COURSE TITLE	ROBOTICS IN MEDICINE		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, seminars and laboratory work	2 (lect.)	4	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	Medical Informatics		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case of foreign students attendind the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/modules/auth/opencourses.php?fc=80		

397. LEARNING OUTCOMES

Learning outcomes

The use of robotics in medicine is a challenging innovation, as its advantages for both the modern physician and the patients are multiple. Consequently, it becomes necessary to teach the basic theoretical principles of robotics in medicine and its practical applications in modern medical practice during undergraduate medical studies.

On this basis, the aim of the course is to understand the basic principles of robotics as well as to categorize and analyze the existing robotic systems that are suitable for application per medical specialty and in particular in surgical interventions as well as the role of "modern" physician ahead of the swift evolution of the two disciplines, medicine and robotics.

The course aims at creating a general framework of knowledge of the basic principles governing modern robotic systems in medicine. It also aims at embedding the applications and functions of robotic optimization systems for diagnostic and invasive procedures using specific examples and clinical cases.

Upon successful completion of the course, the student will:

- Exhibit proven knowledge and understanding of the basic and critical features of robotic systems and their connection to the requirements of each medical specialty.
- Understand the basic principles governing robotic medical systems, subsystems and their management techniques, and how they are used to ensure the successful completion of medical, interventional and surgical operations.
- Be able to co-operate with their colleagues to create and present an academic work related to robotics in any of the specialties of choice.

General Abilities

Understanding the new research fields

- Search, analyze and synthesize data and information, using the necessary technologies
- Adapt to new situations
- Decision making
- Teamwork
- Working in an interdisciplinary environment
- Production of new research ideas
- Exercise of criticism and self-criticism

398. COURSE CONTENT

- Basic principles of medical informatics governing robotic systems. Organization and operation of a robotic system. Mechanical Part. Degrees of freedom.
- Basic principles governing robotic systems and classifications of applications in the fields of modern medicine.
- In the field of diagnosis bio-sensors, micro-robots etc. In the field of surgical specialties, laparoscopic and thoracoscopic surgery. In the field of treatment robotic aid after stroke, artificial members, artificial skin etc.
- Applications of robotics in modern clinical practice. Applications in neurosurgery. Applications in cardiac surgery. Applications in orthopedic surgery. Applications in General Surgery. Applications in urological surgery. Surgical Robotic Systems. Surgery Assistance Systems. Robotic introspection systems. Robotic radiosurgery systems. Robotic master-slave systems.
- Theory and Basic Principles of Telesurgery.
- Robotic systems and the role of the modern Doctor

399. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD

*Πρόσωπο με πρόσωπο, Εξ αποστάσεως
εκπαίδευση κ.λπ.*

- Live in the amphitheater using Power Point Presentations
- Cooperative web conferences with hospitals and robotics specialists

	<ul style="list-style-type: none"> • Channel on Youtube presentations of lectures and sub-group works • Video Presentations 	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<ul style="list-style-type: none"> • Power Point Presentations • Specialized Interpretation Simulation Software • Video Presentations • Cooperative web conferences with hospitals and robotics specialists • Support Learning through the e-class platform • Channel on Youtube presentations of lectures and sub-group works • Facebook Group for direct communication (400 members) 	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures (2 conduct hours per week x 13 weeks)	26
	Research work and Presentation by small Teams as a Final examination	20
	<i>Total number of hours for the Course (25 hours of work-load per ECTS credit)</i>	<i>46 hours (total student work-load)</i>
STUDENT ASSESSEMENT	<p>Research work and Presentation by small Teams as a Final examination (100%)</p>	

400. RECOMMENDED LITERATURE

13. Notes of lecturers in Greek.
14. Lefteris G. Gortzis, Medical Informatics and Telesurgery Theory, Disigma ISBN13- 978-960-9495-31-8
15. Power Point Presentations (e-Class)

DEPARTMENT OF CARDIOTHORACIC SURGERY

Address: University Hospital of Patras, 2nd floor
Tel.: 2610-999847, Fax: 2610-994535

CLINICAL STAFF

Director

-

Professors

-

Associate Professors

Assistant Professors

Efstratios Nikolaos Koletsis

Lecturers

-

**Supporting Teaching and
Technical Staff**

*Participation in the course in Bioethics during the 3rd Year

COURSE OUTLINE

401. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED-1168	SEMESTER OF STUDIES	11o
COURSE TITLE	Cardiothoracic surgery		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	2		
Clinical Practice	48		
		Total 4	
COURSE TYPE	SCIENTIFIC AREA		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (IN ENGLISH LANGUAGE)		
COURSE WEBPAGE (URL)			

402. LEARNING OUTCOMES

Learning outcomes

-

Educational Objectives

At the end of the course the student is expected to be able to understand the pathophysiology of the diseases of the chest and heart, to describe the diagnostic work up needed and to discuss the therapeutic management of the patients weather it is conservative or surgical.

Annual Scientific Seminar

At the end of the course and at the initiative of the students and the coordination of the teaching professors, an Annual Scientific Seminar is organized. This includes two conference tables. where state of the art topics is presented by the four-year medical students

The teaching professors are always available to assist students wishing to participate in clinical and research studies. Finally, students are encouraged to present the aforementioned studies at the Annual Congress of Medical Students.

Importance of the Course

The frequency of lung and heart diseases is rapidly increasing in our country and it is estimated that thoracic and cardiac operations have been doubled within the last 10 years.

Ischemic heart disease and lung cancer still rise, especially in the geographic area covered by the University Hospital of Patras.

Both the respiratory and cardiovascular systems collectively support life and thus the study of the surgical pathology of the diseases of the chest and heart becomes crucial in the integrated part of a medical student's education.

Teaching

The teaching procedure is gradual/staged with intent to provide messages and directories on the management of the patients and basic information about the surgical techniques used.

At the third-year courses of the integrated teaching on diseases and symptoms short lectures on pertinent to cardiothoracic surgery issues represent the first step of the teaching procedure in this field. A detailed presentation of the issues related to Cardiothoracic Surgery is achieved through the optional course of "Introduction to Cardiothoracic Surgery". Furthermore, the optional 2-week clinical practice in Cardiothoracic Surgery represents the final comprehensive outcome in this staged teaching procedure. The students are invited to come closer to the diseases and clinical problems discussed during the theoretical courses. Therefore, students following this course of theoretical and clinical lessons may finally experience a highly scientific and thorough knowledge of topics primarily presented in the integrated teaching of symptoms and diseases at the previous years of study.

The teaching professors are responsible for the teaching procedure which is additionally assisted by doctors/consultants of the National Health System.

The teaching includes lectures with Microsoft Power Point and video presentations and participation as observers in the Operation Room. The students are also encouraged to work in the Experimental Surgery Room whenever there are an active experimental protocol.

. General Abilities

- **Autonomous Work Study**
- **Team Work Study**
- **Planning and Organizing of the Annual Scientific Seminar**
- **Multidisciplinary Team Work**
- **Hands on in clinical scenarios**
- **Active emergency on-call duty**

403. COURSE CONTENT

- **Anatomy of the thorax**
- **Physiology of the respiratory function and anatomy of the heart and great vessels**
- **Physiology of the cardiovascular system**
- **Diagnostic approach – imaging of chest diseases (chest x-rays, computed tomography, Magnetic Resonance imaging, positron emission tomography)**
- **Diagnostic approach-imaging of cardiovascular diseases (coronary angiography, cardiac stress test, classic**

and CT angiography, ultrasound of the heart)

- Cardiopulmonary bypass
- Preoperative assessment of patients undergoing major thoracic, non-cardiac, operations
- Preoperative assessment of patients undergoing cardiac surgery
- Chest incisions according to the planned operation (indications, selection, complications)
- Myocardial protection during cardiac surgery
- Surgical treatment of ischemic heart disease
- Major lung resections (indications, selection, complications)
- Surgery for the management of mechanical complications of ischemic heart disease
- Ischemic mitral valve regurgitation- therapy
- Surgery of the trachea (indications, techniques, complications)
- Aortic valve replacement (indications, techniques, results)
- Tumors of the superior sulcus

- Mitral valve replacement (indications, techniques, results)
- Tumors of chest wall and diaphragm
- Mitral valve repair (indications, techniques, results)
- Surgery for thoracic outlet syndrome (preoperative evaluation, indications, techniques, complications, results)
- Lung cancer (diagnosis and staging)
- Lung cancer – surgical therapy (indications, outcome)
- Surgery for tricuspid valve regurgitation
- Postoperative management of the adult cardiac surgery patient
- Surgery for atrial or ventricular septal communication (adults and children)
- Parasitic infections of the lung – surgical treatment
- Postoperative- adjuvant therapy in lung cancer patients
- Ascending aorta surgery (acute and chronic diseases)
- Postoperative management of patients undergoing General Thoracic Surgery procedures (medications,

prevention and management of complications)

- **Surgery of the aortic arch, descending thoracic aorta and abdominal aorta (acute and chronic diseases)**
- **Trauma to the heart and great vessels**
- **Surgery for benign esophageal diseases. Carcinoma of the esophagus-surgical therapy**
- **Cardiac pacing (indications, complications)**
- **Surgical treatment of pericardial diseases**
- **Surgical treatment of myasthenia gravis (indications, techniques, complications, results)**
- **Surgical approach to mediastinal tumors (frequency, diagnosis, therapy**
- **Surgery for native and prosthetic valve endocarditis (indications, results)**
- **Mechanical circulatory support**
- **Surgical treatment of pulmonary embolism (indications, techniques, results)**
- **Heart and lung transplantation**
- **Postoperative bleeding after general thoracic and cardiac surgery**

- EUROSCORE in the preoperative risk assessment of the cardiac surgery patient.
- Postoperative antiplatelet and anticoagulation therapy in patients with prosthetic materials
- Deep hypothermic circulatory arrest (indications, techniques, results)
- Cardiac tumors
- Post-discharge recommendations for the general thoracic surgery and cardiac surgery patient.

404. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	From Person to Person gradually transform into <i>peer to peer</i>	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	4
	Team work study, Scientific papers, Power Point Presentations	4
	Autonomous Study Work	2
	Hands on clinical practice	70
	Tutorials	1
	Operation room	19
	Total number of hours for the Course	100
STUDENT ASSESSMENT	<ul style="list-style-type: none"> • Final examination which includes patient and problem 	

	<p>management in different clinical scenarios</p> <ul style="list-style-type: none">• Expert lecture in Cardiothoracic Surgery Topics - power point presentation at the Department Staff Meetings in hot real case scenarios.

405. RECOMMENDED LITERATURE

- **Thoracic Surgery Notes. Apostolakis E, Koletsis E, Dougenis D**
- **Cardiac Surgery. Spanos P et al. University Studio press 1999**
- **<http://www.ctsnet.org>**

**INTRODUCTION
TO
CARDIOTHORACIC
SURGERY**
Hours
ECTS Units
Teachers

4th Year, 8th Semester (optional)

Teaching: -, Laboratory: 25 hours per week, Tutorial: - , Clinical Training: -

5

E.N. Koletsis

Description

COURSE OUTLINE

361.406. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED-872	SEMESTER OF STUDIES	8o
COURSE TITLE	Introduction to Cardiothoracic surgery		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	2		
Other activities	9		
		Total 5	
COURSE TYPE	SCIENTIFIC AREA		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (IN ENGLISH LANGUAGE)
COURSE WEBPAGE (URL)	

Educational objectives

362.407. LEARNING OUTCOMES

<p>Lerning outcomes</p> <ul style="list-style-type: none"> •
<p>Educational Objectives</p> <p>At the end of the course the student is expected to be able to understand the pathophysiology of the diseases of the chest and heart, to describe the diagnostic work up needed and to discuss the therapeutic management of the patients weather it is conservative or surgical.</p> <p>Annual Scientific Seminar</p> <p>At the end of the course and at the initiative of the students and the coordination of the teaching professors, an Annual Scientific Seminar is organized. This includes two conference tables. where state of the art topics is presented by the four-year medical students</p> <p>The teaching professors are always available to assist students wishing to participate in clinical and research studies. Finally, students are encouraged to present the aforementioned studies at the Annual Congress of Medical Students.</p> <p>Importance of the Course</p> <p>The frequency of lung and heart diseases is rapidly increasing in our country and it is estimated that thoracic and cardiac operations have been doubled within the last 10 years.</p>

Ischemic heart disease and lung cancer still rise, especially in the geographic area covered by the University Hospital of Patras.

Both the respiratory and cardiovascular systems collectively support life and thus the study of the surgical pathology of the diseases of the chest and heart becomes crucial in the integrated part of a medical student's education.

Teaching

The teaching procedure is gradual/staged with intent to provide messages and directories on the management of the patients and basic information about the surgical techniques used.

At the third-year courses of the integrated teaching on diseases and symptoms short lectures on pertinent to cardiothoracic surgery issues represent the first step of the teaching procedure in this field. However, a more thorough knowledge is achieved during the course entitled "Introduction to Cardiothoracic Surgery".

Additionally, the optional clinical practice of 2 weeks in Cardiothoracic Surgery allows students to participate in the daily clinical and surgical practice of our department so as to come closer to the diseases and clinical problems discussed during the theoretical courses.

The teaching professors are responsible for the teaching procedure which is additionally assisted by doctors/consultants of the National Health System.

The total number of teaching hours is 24 equally divided between General Thoracic Surgery and Cardiac Surgery

The teaching includes lectures with Microsoft Power Point and video presentations and participation as observers in the Operation Room. The students are also encouraged to work in the Experimental Surgery Room whenever there are is an active experimental protocol.

. General Abilities

- **Autonomous Work Study**
- **Team Work Study**
- **Planning and Organizing of the Annual Scientific Seminar**
- **Multidisciplinary Team Work**

363.408. COURSE CONTENT

- **Introduction in Cardiothoracic Surgery**
- **Lung Cancer**
- **Diseases of the Mediastinum and trachea. Superior Vena Cava Syndrome**
- **Thoracic Trauma**
- **Emergencies in Cardiothoracic Surgery**

- Spontaneous pneumothorax, Surgical management of Pulmonary Emphysema, Hemoptysis
- Diseases of the thoracic wall, Mesothelioma, Diseases of the diaphragm.
- Surgical diseases of the esophagus
- Introduction in Cardiac Surgery, Cardiopulmonary Bypass, Ischemic Heart Disease
- Heart Valve Disease I
- Heart Valve Disease II
- Surgical diseases of the thoracic aorta and endovascular Surgery
- Tutorial Course

364.409. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	

TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	25
	Team work study, Scientific papers, Power Point Presentations	36
	Organizing Annual Seminar	10
	Autonomous Study Work	38
	Hands on clinical practice	2
	Annual Scientific Seminar	4
	Tutorials related to the Annual Seminar	10
	<i>Total number of hours for the Course</i>	125
STUDENT ASSESSMENT	<ol style="list-style-type: none"> 1. Written exams which include <ul style="list-style-type: none"> • Multiple choice questions • Patient and problem management in different clinical scenarios 2. Expert lecture in Cardiothoracic Surgery Topics at the Annual Scientific Seminar 	

365.410. RECOMMENDED LITERATURE

- Thoracic Surgery Notes. Apostolakis E, Koletsis E, Dougenis D

- Cardiac Surgery. Spanos P et al. University Studio press 1999

- <http://www.ctsnet.org>

DEPARTMENT OF VASCULAR SURGERY

Address	University Hospital of Patras, 2 nd floor Tel.: 2613-603360, Fax: 2613603360
CLINICAL STAFF	
Director	Associate Professor Stavros Kakkos
Professors:	Ioannis Tsolakis
Associate Professors:	-Stavros Kakkos
Assistant Professors:	Stavros Kakkos
Lecturers:	-
Supporting Teaching and Technical Staff:	-
	*Part of Integration I and II

OPTIONAL COURSE4th Year, 8th (mandatory)**Hours**

25

Teaching: 13 hours , Clinical training: 2 hours per week (6 weeks)

ECTS Units**Teaching staff****Professor Ioannis Tsolakis**

Assistant Professor Stavros Kakkos

Description

The clinical training of students in Surgery is carried out during the 5th and the 6th year of studies and includes

1. Lectures
2. Participation in outpatient clinic
3. Participation in medical history taking and physical examination in the ward, discussion of the treatment plan
4. Observation of surgeries
5. Observation of examination of the patients in Emergency Department

OPTIONAL CLINICAL TRAINING 6th Year (11th – 12th) (mandatory)**Hours** 60**ECTS Units** 5**Teaching staff****Professor Ioannis Tsolakis****Associate Professor Stavros Kakkos****Description****COURSE OUTLINE**

366.411. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_878	SEMESTER OF STUDIES	8TH H
COURSE TITLE	VASCULAR SURGERY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS	ECTS CREDITS	
	25	50	
COURSE TYPE	Scientific area		
PREREQUISITE COURSES:	None		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)			

367.412. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •
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Learning of vascular disease affecting arterial, venous and lymphatic system, including venous trauma and diabetic foot.

General Abilities

*Adaptability in a new environment
Decision making
Autonomous work*

368.413. COURSE CONTENT

Diseases of arteries, veins and lymphatic vessels. Diabetic foot.

369.414. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	

TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Tutorials and educational ward rounds	25 hours
	<i>Total number of hours for the Course (25 hours of work-load per ECTS credit)</i>	<i>25 hours (total student work-load)</i>
STUDENT ASSESSEMENT	Verbal examination	

370.415. RECOMMENDED LITERATURE

<i>European Journal of Vascular and Endovascular Surgery, Journal of Vascular Surgery</i>

Address University Hospital of Patras, 2nd floor
Tel.: 2613-603360, Fax: 2613603360

CLINICAL STAFF

Director S. Kakkos

Professors:

Associate Professors: -
Assistant Professors: S. Kakkos
Lecturers: -
**Supporting Teaching and
Technical Staff:** -
***Part of Integration I and II**

OPTIONAL COURSE 4th Year, 8th (mandatory)
Hours 25
Teaching: 13 hours , Clinical training: 2 hours per week (6 weeks)
ECTS Units
Teaching staff Assistant Prof. S. Kakkos

Description The clinical training of students in Surgery is carried out during the 5th and the 6th year of studies and includes

- Lectures
- Participation in outpatient clinic
- Participation in medical history taking and physical examination in the clinic, discussion of the treatment plan
- Observation of surgeries
- Observation of estimation of the patients in Emergency Department

COURSE OUTLINE

416. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_1176	SEMESTER OF STUDIES	IA & IB
COURSE TITLE	ELECTIVE IN VASCULAR SURGERY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	25	50	
COURSE TYPE	Clinical skills development		
PREREQUISITE COURSES:	None		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)			

417. LEARNING OUTCOMES

Leraning outcomes

•
<p>Acquisition of medical history focused on vascular diseases. Practice of physical examination in patients with vascular diseases. Ability to perform differential diagnosis of common vascular diseases. Learn the basics of investigation for vascular diseases. Recognition of vascular structures and comprehension of basic vascular surgery techniques during open and endovascular procedures.</p>
General Abilities
<p><i>Adaptability in a new environment</i> <i>Decision making</i> <i>Autonomous work</i></p>

418. COURSE CONTENT

Diseases of arteries, veins and lymphatic vessels. Diabetic foot.

419. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Clinical training	25 hours per week

		Total number of hours for the Course (25 hours of work-load per ECTS credit)
STUDENT ASSESMENT	Clinical examination and patient assessment.	

420. RECOMMENDED LITERATURE

European Journal of Vascular and Endovascular Surgery, Journal of Vascular Surgery

DIVISION OF PAEDIATRICS, OBSTETRICS - GYNAECOLOGY

DEPARTMENT OF PEDIATRICS

Address: University Hospital of Patras, 1st floor
Tel.:2610-999544, 2610-993948 , Fax: 2610-994533

CLINICAL STAFF

Director Prof. Gabriel Dimitriou

Professors Anastasia Varvarigou, Vassiliki Greka-Spilioti, Michael Anthrakopoulos

Associate Professors: Dionisios Chrisis

Assistant Professors: Aggeliki Karatza

Lecturers: Xenofon Sinopidis

Supporting Teaching and Technical Staff : Olga Sfiri

Administrative Staff: Christina Adamopoulou

* Participation in the Integrated learning program-Part II, in the optional course in Pediatric and Reproductive Endocrinology during the 4th Year, in the course in Bioethics during the 3rd Year and the course «Introduction to Internal Medicine» during the 1st Year.

PAEDIATRICS 5th Year, Semesters 9th & 10th (mandatory)

Hours Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 35 hours per week (4 weeks)

8

ECTS Units A. Varvarigou, V. Greka - Spilioti, G. Dimitriou, M. Anthrakopoulos, D. Chrisis, A. Karatza, X. Sinopidis

Teachers

Description

COURSE OUTLINE

371.421. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	921	SEMESTER OF STUDIES	9 th & 10 th
COURSE TITLE	PAEDIATRICS (5 th YEAR)		
INDEPENDENT TEACHING ACTIVITIES	TEACHING	ECTS CREDITS	

	HOURS PER WEEK	
Lectures	5	
Seminars	5	
Clinical Practice	20	
TOTAL	30	8
COURSE TYPE	Field of Science and Skills Development	
PREREQUISITE COURSES:		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)	
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=59	

372.422. LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> • <p>The aim of the course is the theoretical and practical training of medicine students in Paediatrics.</p> <p>In their fifth year of studies, medical students attend clinical Paediatrics for four (4) weeks per year at the Paediatric Department of the University Hospital of Patras.</p> <p>Aims of the course:</p>

- Acquiring theoretical and practical knowledge in General Paediatrics
- Collecting, organizing, and recording critical information on various disorders, as well as on the psychosomatic development of children of all age groups (neonates, infants, children and adolescents)

By the end of this course the student is expected to develop the following skills:

- Ability to obtain a detailed history
- Ability to carry out a thorough physical examination and assess the developmental stage of the child
- Ability to organize and record the above information as conventional or problem-oriented history
- Ability to compile and analyze information to obtain a differential diagnosis
- Ability to determine a management plan for the patient
- Ability to present the above medical information in a comprehensive manner
- General knowledge regarding the treatment options for the most common paediatric disorders
- Ability to understand the pathophysiology of various diseases and their effects on the development of the patient

General Abilities

By the end of this course the student will, furthermore, have develop the following general abilities:

- Searching, analysis and synthesis of facts and information

- Decision making
- Autonomous (Independent) work
- Group work
- Development of novel research ideas
- Promotion of free, creative and inductive thinking

373.423. COURSE CONTENT

- i. Developmental Paediatrics
- ii. Nutrition
- iii. The acutely ill child
- iv. Neonatology
- v. Paediatric Haematology and Oncology
- vi. Paediatric Allergic diseases and Immunology
- vii. Paediatric Gastroenterology
- viii. Paediatric Endocrinology
- ix. Paediatric Cardiology
- x. Paediatric Infectious diseases
- xi. Paediatric Neurology
- xii. Paediatric Nephrology and Urology
- xiii. Paediatric Pulmonology
- xiv. Paediatric Rheumatic disorders
- xv. Paediatric Surgery
- xvi. Adolescence medicine

374.424. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face (lectures, seminars, grand rounds)	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Communication Technologies in teaching (PowerPoint) and for bibliographic search (PubMed, Scopus)	
TEACHING ORGANIZATION	Activity	Semester work-load
	Lectures (5 hours per week x 4 weeks)	20
	Seminars (5 hours per week x 4 weeks)	20
	Clinical Practice (20 hours per week x 4 weeks)	80
	Total number of work-load hours	120 hours = 8 ECTS credits (15 hours of work-load per ECTS credit)
STUDENT ASSESSEMNT	Written final examination (in Greek language) which includes: <ul style="list-style-type: none"> • Multiple choice questions • Short discourse questions • Differential-diagnosis questions (clinical cases) 	

375.425. RECOMMENDED LITERATURE

Nelson Textbook of Pediatrics, 20th ed. Elsevier, 2016

Fifth year students, as well as sixth year students, are trained in Clinical

**CLINICAL TRAINING IN
PAEDIATRICS**

6th Year, Semesters 11th & 12th (mandatory)

Hours

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 35 hours per week (6 weeks)
12

ECTS Units

A. Varvarigou, V. Greka - Spilioti, G. Dimitriou, M. Anthrakopoulos, D. Chrisis, A. Karatza, X. Sinopidis

Teachers

COURSE OUTLINE

376.426. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_1123	SEMESTER OF STUDIES	11 th & 12 th
COURSE TITLE	PAEDIATRICS (6 th YEAR)		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	5		
Seminars	5		
Clinical Practice	20		
In-house duty	7		
TOTAL	37	12	
COURSE TYPE	Field of Science and Skills Development		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=81

377.427. LEARNING OUTCOMES

Leraning outcomes

-

The **aim** of the course is the **theoretical and practical training of medicine students in Paediatrics**.

In their sixth year of studies, medical students attend clinical Paediatrics for **six (6) weeks per year** at the Paediatric Department of the University Hospital of Patras.

Aims of the course:

- Acquiring theoretical and practical knowledge in General Paediatrics
- Collecting, organizing, and recording critical information on various disorders, as well as on the psychosomatic development of children of all age groups (neonates, infants, children and adolescents)

By the end of this course the student is expected to develop the following skills:

- Ability to obtain a detailed history
- Ability to carry out a thorough physical examination and assess the developmental stage of the child
- Ability to organize and record the above information as conventional or problem-oriented history
- Ability to compile and analyze information to obtain a differential diagnosis

- Ability to determine a management plan for the patient
- Ability to present the above medical information in a comprehensive manner
- General knowledge regarding the treatment options for the most common paediatric disorders
- Ability to understand the pathophysiology of various diseases and their effects on the development of the patient

General Abilities

By the end of this course the student will, furthermore, have develop the following general abilities:

- Searching, analysis and synthesis of facts and information
- Decision making
- Autonomous (Independent) work
- Group work
- Development of novel research ideas
- Promotion of free, creative and inductive thinking

378.428. COURSE CONTENT

- i. Developmental Paediatrics
- ii. Nutrition
- iii. The acutely ill child

- iv. Neonatology
- v. Paediatric Haematology and Oncology
- vi. Paediatric Allergic diseases and Immunology
- vii. Paediatric Gastroenterology
- viii. Paediatric Endocrinology
- ix. Paediatric Cardiology
- x. Paediatric Infectious diseases
- xi. Paediatric Neurology
- xii. Paediatric Nephrology and Urology
- xiii. Paediatric Pulmonology
- xiv. Paediatric Rheumatic disorders
- xv. Paediatric Surgery
- xvi. Adolescence medicine

379.429. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face (lectures, seminars, grand rounds)	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Communication Technologies in teaching (PowerPoint) and for bibliographic search (PubMed, Scopus)	
TEACHING ORGANIZATION	Activity	Semester work-load
	Lectures (5 hours per week x 6 weeks)	30
	Seminars (5 hours per week x 6 weeks)	30
	Clinical Practice (20 hours per week x 6 weeks)	120
	In-house duty (7 hours per week x 6 weeks)	42
	Total number of work-load hours	222 hours = 12 ECTS credits

		(18.5 hours of work-load per ECTS credit)
STUDENT ASSESSEMENT	Written final examination (in Greek language) which includes: <ul style="list-style-type: none"> • Multiple choice questions • Short discourse questions • Differential-diagnosis questions (clinical cases) 	

380.430. RECOMMENDED LITERATURE

Nelson Textbook of Pediatrics, 20th ed. Elsevier, 2016

COURSE OUTLINE

431.GENERAL

SCHOOL	HEALTH SCIENCES		
SEAPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	1175	SEMESTER OF STUDIES	11 th & 12 th
COURSE TITLE	NEONATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures and clinical practice in the Neonatal Intensive Care Unit	35	4	

COURSE TYPE	Field of Science and Skills Development
PREREQUISITE COURSES:	
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBPAGE (URL)	

432.LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> • <p>The aim of the course is the theoretical and practical training in Neonatology.</p> <p>In their sixth year of studies, medical students attend lectures and are trained in Neonatology in the Neonatal Intensive Care Unit, the Delivery Room, and the well-baby Nursery of the University Hospital of Patras, for a period of two (2) weeks.</p> <p>Aim: Acquiring theoretical knowledge and basic practical skills in Neonatology.</p>
General Abilities
<p>By the end of this course the students will have develop the following general abilities:</p> <ul style="list-style-type: none"> • Searching, analysis and synthesis of facts and information • Decision making • Promotion of free, creative and inductive thinking

433.COURSE CONTENT

- History and physical examination of the neonate
- Delivery room care. Birth injuries. Neonatal transfer.
- Transition from intrauterine to extrauterine life
- Standard medical care of the normal newborn
- The high-risk pregnancy
- Nutrition and growth of the neonate
- Respiratory problems of preterm and term neonates. Basic principles of mechanical ventilation.
- Neonatal jaundice
- Infections (congenital and neonatal)
- Cardiological problems of the neonate
- Problems from the gastrointestinal tract
- Neurological problems (cerebral hemorrhage, neonatal seizures, hypotonia, hypoxic-ischemic encephalopathy)
- Haematological, endocrinological and metabolic problems
- Long-term sequelae of preterm birth
- Intrauterine growth restriction
- Surgical emergencies in the neonatal period

434. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face (lectures, practical training in the Neonatal Intensive Care Unit, the Delivery Room, and the well-baby Nursery)
USE OF INFORMATION	Communication Technologies in teaching (PowerPoint)

AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Activity</i>	<i>Semester work-load</i>
	Lectures (35 hours per week x 2 weeks)	70
	Total number of work-load hours	70 hours = 4 ECTS credits (17.5 hours of work-load per ECTS credit)
STUDENT ASSESMENT	Written final examination with multiple choice questions	

435.RECOMMENDED LITERATURE

1. Fanaroff AA and Martin RJ. *Neonatal - Perinatal Medicine. Diseases of the fetus and infant*
2. Polin RA and Fox WW. *Fetal and Neonatal Physiology*

DEPARTMENT OF OBSTETRICS - GYNAECOLOGY

Address University Hospital of Patras, 3rd floor
Tel.: 2610-999563, 2610-999854 , Fax: 2610-993854

CLINICAL STAFF

Director Prof. George Dekavalas

Professors George Adonakis, Neoklis Georgopoulos

Associate Professors Apostolos Kaponis

Assistant Professors Apostolos Kaponis, Georgios Androutsopoulos

Lecturers -

Supporting Polixeni Psilla

**Teaching and
Technical
Staff**

*** Participation in the Integrated learning program-Part II, in the course in Bioethics during the 3rd Year and the course «Introduction to Internal Medicine» during the 1st Year**

OBSTETRICS & 5th Year, Semesters 9th & 10th (mandatory)

GYNAECOLOG

Y Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 35 hours per week (4 weeks)

Hours 8 Units

G. Dekavalas, V. Tsapanos, G. Adonakis, N. Georgopoulos, A. Kaponis, G. Androutsopoulos

ECTS Units

Teachers

Students' labour starts at 08:30 am and ends at 03:00 pm. Students' practice is aimed at acquiring experience concerning obstetrics and gynaecology patients of all ages and familiarizing with a wide spectrum of obstetric and gynaecologic diseases, focusing on the most frequently met. Students are distributed at the units of the Clinic, where under the instruction of the managing doctors obtain a history and examine inpatients and patients visiting the ambulatory, discuss about the differential diagnosis and follow up the laboratory tests and management of patients. Students obligingly attend the ward round performed daily by the supervisors of the units and the ward round performed by the Clinic Director/Professor every Thursday. During the ward round, students present the cases and they should be aware of the disease course, the results of paraclinical tests and the administered medication.

Description

They also obligingly attend the rest educational activities of the Clinic:

- Tuesday 14:00-15:00: Lectures by prominent speakers
- Wednesday 12:00-13:00: Oncology Council
- Thursday 14:00-15:00: Literature review

The assessment of students concerning Obstetrics – Gynaecology is accomplished with a multiple choice test during the 7th semester. On degree students are examined orally by the Teaching Staff of the Clinic.

6th Year, Semesters 11th & 12th (mandatory)

Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 35 hours per week (3 weeks)

4

G. Dekavalas, V. Tsapanos, G. Adonakis, N. Georgopoulos, A. Kaponis, G. Androutsopoulos

CLINICAL TRAINING IN OBSTETRICS - GYNAECOLOGY	SCHOOL OF HEALTH SCIENCES
Hours	MEDICINE
ECTS Units	BACHELOR IN MEDICINE
Teachers	OBSTETRICS AND GYNAECOLOGY (MED_1124)
Description	Greek
	Yes
	<p>During their clinical attachment in the Obstetrics and Gynaecology Department, medical students rotate in Postnatal and Antenatal wards, Gynaecology ward, labour ward, Gynaecology outpatient unit and Gynaecology emergency unit. They follow fully the clinical practice and theatre list for each one of these departments. They will familiarize with the progress of natural delivery, CTG interpretation and vaginal examination. Students will have the opportunity to observe natural and operative vaginal deliveries, planned and emergency caesarean sections in labour ward. Sixth year medical students are encouraged to perform under supervision at least one uncomplicated natural delivery before the end of their rotation in labour ward. During their rotation in Gynaecology ward, medical students are expected to be responsible for their patients; to take their medical history, observe their procedure and follow them up from admission to discharge. They will also have the chance to observe day surgeries such as hysteroscopies as well as colposcopies, loop excisions and biopsies. In the outpatient</p>

unit, they can take vaginal swabs and smear tests and also perform basic ultrasound examinations under supervision. At the same time they will be exposed to routine and emergency obstetric care and will be able to discriminate between low risk and high risk pregnancies and their management. In the clinical attachment, formal lectures are scheduled twice a week and students are also involved in case based discussions and every day medical rounds. Overall, this clinical attachment will give students the opportunity to familiarize with all aspects of the O&G every day clinical practice, to acquire basic skills and will combine theory with bed side teaching.

381.436.

	Face to face lectures
	Specialized on line platform, e-class
	<i>Δραστηριότητα</i>
	Lectures
	Medical rounds
	Participation in every day clinical practice
	Case presentations
	Case based discussions
	Observing/assisting surgical procedures

382.437.

Obstetrics and Gynaecology, Antsaklis, Parisianos Editions, 2010 edition
Principles of Obstetrics and Gynaecology, Messinis, Parisianos Editions, ,2010 edition

PAEDIATRIC & REPRODUCTIVE ENDOCRINOLOGY 4th Year, 8th Semester (optional)

Hours Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week

ECTS Units 5

Teachers V. Greka - Spilioti, D. Chrisis, G. Adonakis, N. Georgopoulos

Description

COURSE OUTLINE

383.438. GENERAL

SCHOOL	MEDICAL SCHOOL		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_876	SEMESTER OF STUDIES	8o
COURSE TITLE	Pediatric and Reproductive Endocrinology		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	25	5	
COURSE TYPE	Field of Science (Pediatric and Reproductive Endocrinology)		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/modules/course_description/?course=MED1045

384.439. LEARNING OUTCOMES

<p>Lerning outcomes</p> <ul style="list-style-type: none"> • v <p>This course is an introductory lesson on the principles of reproduction and its basic disorders. The subject matter of the course is to introduce basic principles of the evolution of reproductive function-systems over the whole range of living life as well as the diversity and complementarity of the two sexes in relation to the gender diversity and gender disorders and their consequences. Examples will be presented regarding genotype disorders underlying the gender differentiation phenotypic disorders. The physiology of sexuality will be developed as well as the importance of its disorders. Also, references will be made to disorders of reproductive function during childhood and adolescence and their relation to adult life disorders and infertility. The basic molecular techniques of laboratory will be presented regarding the gene mutations detection as well the results evaluation necessary in medical practice. The main objective upon successful completion of the course, is the student's ability to understand the basic principles of reproduction physiology and the significance of its disorders.</p>
<p>General Abilities</p>

*Acquisition of social, professional and moral responsibility and sensitivity to gender issues.
Respect of diversity.*

385.440. COURSE CONTENT

1. Central Nervous System

Interaction of hormones and neural circuits.
Correlation of hormonal factors with reproductive and behavioral phenotypes

2. Infertility

Causes of infertility.
Clinical and laboratory infertility investigation

3. Pediatric Endocrinology

Introduction to Metabolic Diseases of Pediatric Endocrinology.
Investigation of molecular mechanisms of intracellular signal transduction

4. Gender and Reproduction

Introduction to the evolution of Reproduction.
Understanding the mechanism of gender differentiation in humans and differentiation disorders

386.441. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	
	Lectures

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of ppt files, where from the students can freely download them using a password which is provided to them at the beginning of the course (e-class).	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	25
	Hours for private study of the student	75
	<i>Total number of hours for the Course</i>	100
STUDENT ASSESSMENT	Written examination after the end of the semester	

387.442. RECOMMENDED LITERATURE

1. Williams Textbook of Endocrinology. Wilson J, Foster D, Kronenberg H, Larsen P, WB Saunders Company. 9th Edition.
2. Progress in Clinical Endocrinology. Sammel Sostin, MD, Editor.
3. Essentials of Endocrinology. PG Malan and RP Gould. Edited by JLH O'Riordan. Second edition.
4. Functional Endocrine Pathology. Editors Kalman Kovacs, Sylvia L. Asa. Blackwell Scientific Publications.
5. Clinical Endocrinology. Editor Ashley Grossman. Foreword by Michael Besser. Blackwell Scientific Publications.
6. Endocrinology and Metabolism. Philip Felig, John D. Baxter, Lawrence A. Frohman. Third Edition.
7. Molecular Endocrinology. Franklyn F. Bolander. Third Edition. Elsevier.

MATERNAL 4th Year, 8th Semester (optional)
FETAL
MEDICINE Teaching: - , Laboratory: - , Tutorial: - , Clinical Training: 25 hours per week
Hours
 5
ECTS Units G. Dekavalas
Teachers

COURSE OUTLINE

443. GENERAL

SCHOOL	Patras University		
SEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_877	SEMESTER OF STUDIES	8 th
COURSE TITLE	Maternal Fetal Medicine		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	3	
	Laboratory	3	
	Clinical	2	
			5
COURSE TYPE	Scientific area		
PREREQUISITE COURSES:	Obstetrics and Gynecology		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)			

444. LEARNING OUTCOMES

Learning outcomes

-

In depth knowledge regarding:

- maternal physiology (adaptation mechanisms)
- fetal physiology
- diseases in pregnancy (recognition and management)
- following – up a pregnancy
- recognition and management of fetal problems
- organizing prenatal screening
- basic knowledge in ultrasound in obstetrics

General Abilities

Decision making

Working (collaborating) in a scientific environment

Autonomous work

445. COURSE CONTENT

Maternal – fetal physiology

Prenatal screening

Follow-up of normal and complicated pregnancies

Ultrasound examination of normal and high-risk pregnancies

Surgical interventions in pregnancy

446. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures – examining patients	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	10
	Clinical assessment	16
	Study hours	6
	<i>Total number of hours for the Course</i>	32
STUDENT ASSESSMENT	Language: Greek Method: Multiple choice + patient assessment	

447. RECOMMENDED LITERATURE

Creasy and Resnik's Maternal-Fetal Medicine: Principles and Practice, 7th Edition

Loutradis D, Papantoniou N.: Obstetrics and Gynecology (In Greek)

[Ultrasound in Obstetrics and Gynecology](#)

Description Students are taught the fundamental principles of ultrasonography and get familiar with the use of ultrasound machines. They observe the fetus and its environment. They assess the stage of pregnancy, fetal weight and health status. They study the integrity of fetal tissues and vital organs and infer possible genetic anomalies and congenital abnormalities. They check the appearance and function of placenta and umbilical cord and calculate the perfusion and oxygenation of fetus during both pregnancy and labor. Fetal genetic disorders (chromosomal, metabolic, multifactorial), methods of personal testing and screening and prenatal diagnosis as well as prenatal invasive diagnostic methods are taught. Students will be able to give simple genetic advice and instructions. The effect of several factors which can harmfully affect the fetus during pregnancy such as medicines, serums and vaccines, radiations, addictive substances and several other harmful factors is taught. Students learn their appropriation and precautions for the fetus. The pathology of pregnancy is taught. The most common and serious diseases of pregnant women affecting directly fetal health are thoroughly analyzed. Students learn to observe and treat mother and fetus simultaneously, to promote their health and preserve their life. Finally, students are informed of the latest progress on the potentials for therapeutic intervention on fetus during pregnancy and familiarize with the most specialized methods and techniques concerning fetal intrauterine therapy. Curriculum includes the following unities:

ULTRASONOGRAPHY IN OBSTETRICS (10 hours)

- Ultrasound Imaging in Obstetrics
- Physics of ultrasound-Machinery-Sections
- Fetal Biometry
- Systematic ultrasound imaging

- Basic principles of Doppler
- Supervision of fetus during labor
- Acid-base homeostasis, FHR (NST, OCT), Biophysical profile

HIGH-RISK PREGNANCY – PATHOLOGY OF PREGNANCY (8 hours)

- Twin – Multiple pregnancy
- Hypertensive disease of pregnancy
- Intrauterine growth restriction
- Diabetes Mellitus
- Rhesus Sensitization
- Premature rupture of membranes-Preterm labor
- Infections during pregnancy

PRENATAL EXAMINATION AND DIAGNOSIS (3 hours)

- Epidemiology
- Screening of genetic diseases
- Cystic fibrosis, Sickle-cell anaemia, Tay-Sachs disease, Thalassaemia
- Chromosomal disorders
- Trisomy 21 (Down's syndrome), Trisomy 18 (Edward's syndrome), Trisomy 13 (Patau's syndrome), Sex Chromosome Abnormalities (Turner's, Klinefelter's)
- Congenital anomalies of fetus
- Neural tube defects, Heart defects, Potter's syndrome
- Prenatal Diagnostic Interventions
- Amnioparacentesis
- Trophoblast biopsy
- Percutaneous umbilical cord blood sampling
- Obstetric Ultrasound
- First and second trimester screening
- Jugular foramen ultrasound
- A-test and Integrated A-Test
- Biochemical indices
- Ultrasonic indices

PRENATAL CARE (2 hours)

- Teratology
- Medicines
- Serums and Vaccines
- Addictive substances
- Radiations
- Harmful factors concerning domestic and working environment

FETAL THERAPIES (2 hours)

- Medications administered to mother, targeting fetus
- Fetal interventions (Transfusions, Injections, Therapeutic abortion, Multifetal pregnancy reduction, Shunts, Fetal surgery)
- Transplantations of embryonic cells, tissues and organs
- Cloning-Gene Therapy
- Eugenics: Negative (reduction) Eugenics, Positive (addition) Eugenics

DEPARTMENT OF PAEDIATRIC SURGERY

Address: University Hospital of Patras, 1st floor
Tel.:2613-603813 , Fax: 2610-994683, email: xsinopid@upatras.gr

CLINICAL STAFF

Director Assistant Professor Xenophon Sinopidis

Professor -

Associate Professors -

Assistant Professors

Lecturers Xenophon Sinopidis

Supporting Teaching and -

Technical Staff

PEDIATRIC SURGERY 4th Year, 8th Semester (optional)
MATERNAL FETAL MEDICINE

Hours

ECTS Units

5

Teachers

Xenophon Sinopidis

University Hospital of Patras, 1st floor

Address:

Tel.:2610-999847 , Fax: 2610-994535

CLINICAL STAFF

COURSE OUTLINE

388.448. GENERAL

SCHOOL	Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate (Optional, after choice)		
COURSE CODE	med_883	SEMESTER OF STUDIES	8 th (Eighth)
COURSE TITLE	Pediatric Surgery		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	25	5	
COURSE TYPE	Science and Skills Development		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek and English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes, Since now HELMSIC students have participated		

COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=113
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389.449. LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> • <p>Students meet the pediatric surgical diseases Embryology, anatomy, physiology and other sectors are applied in childhood clinical practice They learn how to deal with pediatric patients in clinical examination and diagnosis since neonatal age They understand the indications and operational techniques in children They learn about the child in the surgical theater They learn to use suture material and techniques</p>
General Abilities
<p><i>Adjustment to new conditions</i> <i>Decision taking</i> <i>Autonomous work</i> <i>Team work</i> <i>International cooperation</i> <i>Inter-scientific cooperation</i> <i>Production of new investigative ideas</i> <i>Criticism and self-criticism and evaluation</i> <i>Production of free, creative and inductive way of rationing</i></p>

390.450. COURSE CONTENT

Head and Cervical diseases

Cleft lip and palate, Ranula, Ear appendages and fistulas, Torticollis, Thyroglossal duct cyst, Dermoids, Branchial apparatus disorders, lymphangiomatic diseases

Thorax

Sternum, Trachea diseases, Pulmonary congenital and other diseases, pneumothorax, mediastinal diseases, congenital diaphragmatic hernia, congenital cardiopathies

Digestive system

Esophageal diseases, acute abdomen, pyloric stenosis, Duodenal stenosis and atresia, short bowel atresias, Malrotation, Hirschsprung's disease, Meconium diseases, , intestinal duplications, necrotic enterocolitis, short bowel syndrome, acute appendicitis, intussusception, hepatic congenital atresia and choledochal cyst, bladder diseases, spleen diseases

Abdominal wall

Inguinal hernia, umbilical and other hernias, Omphalocele, gastroschisis, urachus

Urogenital system

Congenital malformations of position and development of kidneys

Polycystic kidney

Renal dysplasia

Hydronephrosis

Pelvic ureteral obstruction

Double ureter

Ureterocele, VUR, urethral valves, ureteral outlet obstruction

Hydrocele, hypospadias, phimosis, ovarian disease, acute scrotum, undescended testes, DSD

Special diseases

Cancer in childhood, trauma, burns, dermatological disease, transplantation

391.451. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Teaching in small groups, interactive teaching, teaching in the operating theater, teaching of surgical skills and abilities	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES <i>Χρήση Τ.Π.Ε. στη Διδασκαλία, στην Εργαστηριακή Εκπαίδευση, στην Επικοινωνία με τους φοιτητές</i>		
TEACHING ORGANIZATION	Teaching Method	Semester Work
	Teaching	85
	Operation	20
	Surgical techniques instructions	20
	Total number of hours for the Course	125

STUDENT ASSESSMENT	Oral examination Theoretical knowledge testing Practical application of knowledge
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392.452. RECOMMENDED LITERATURE

Literature in Greek:
 Σύγχρονη κλινική παιδοχειρουργική-διάγνωση και θεραπεία. Συγγραφέας Γ. Βάος. Κωδικός βιβλίου στον Εύδοξο: [13256999]
 Αρχές παιδοχειρουργικής και παιδοουρολογίας. Συγγραφέας Σ. Γαρδικής. Κωδικός βιβλίου στον Εύδοξο: [320275]
Journals Journal of Pediatric Surgery
European Journal of Pediatric Surgery
Pediatric Surgery International

Director

Prof. Varvarigou Anastasia (acting)

Professor

-

Associate Professors

-

Assistant Professors

Lecturers

Xenofon Sinopidis

**Supporting Teaching and
 Technical Staff**

-

INTEGRATED STUDY MODULES - PART I

COURSES

INTRODUCTION TO RADIOLOGY

Hours

3rd Year, 6th Semester (mandatory)

Teaching: 25 hours per week, Laboratory: - , Tutorial: - , Clinical Training: - (1 week)

2 Units

ECTS Units Teachers

D. Kardamakis, T. Petsas, A. Solomou, C. Kalogeropoulou, P. Zabakis, D. Karnabatidis

Description

COURSE OUTLINE

393.453. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_681	SEMESTER OF STUDIES	6 th (mandatory)
COURSE TITLE	INTRODUCTION TO RADIOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	25x1	2	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:			

TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in greek)
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED1061/

394.454. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>Aim of this teaching course is to make students familiar with basic imaging studies, relevant. Moreover students will understand the indications, diagnostic approach and pathologic entities in the future semesters.</p> <p>By the end of this introductory course on Radiology, the student must have knowledge and skills familiar with:</p> <ul style="list-style-type: none"> • The basic principles of medical imaging • The main medical imaging modalities used in clinical practice • How to perform radiological examinations • The basic indications of radiological examinations • The basic radiological anatomy by system

- The basic biological effects of medical imaging modalities
- The dangers about unjustified exposure to radiological examinations

General Abilities

- Searching, analysis and synthesis of facts and information, as well as using the necessary technologies
- Adaptation to new situations
- Decision making
- Work in a interdisciplinary environment
- Demonstration of social, professional and ethical responsibility

395.455. COURSE CONTENT

The study material comprises:

- Principles of physics in Radiology, production of medical image, -principles of medical imaging modalities (X-ray tube- computed tomography-ultrasound)
- Principles of radiobiology, with emphasis on the mechanisms of cell death, a

means of protection of the cell,

- Application of special radiological techniques with emphasis in modern imaging modalities,
- Radiologic anatomy of organs and systems (CNS-respiratory-gastrointestinal- urogenital- musculoskeletal-cardiovascular system and vessels)

396.456. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Multimedia presentations in lectures Support of the Learning process by means of the e-class platform	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Ερ</i>
	Lectures	
	Private Study	
STUDENT ASSESSMENT	Written final multiple-choice examination (in greek)	

397.457. RECOMMENDED LITERATURE

FIRST RECOMMENDATION



ESPIRATORY**Hours****ECTS Units****Teachers****Description**3rd Year, 6th Semester (mandatory)

Teaching: 25 hours per week, Laboratory: - , Tutorial: - , Clinical Training: - (2 weeks)

4

K. Spiropoulos, K. Karkoulas

COURSE OUTLINE**398.458. GENERAL**

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_621	SEMESTER OF STUDIES	6 TH
COURSE TITLE	PULMONARY MEDICINE		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	45 hours / 2 weeks		
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	Typically, there are not prerequisite course.		

TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be performed in English in case foreign students also attend the course.
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED1040/

399.459. LEARNING OUTCOMES

Leraning outcomes

-

Pulmonary Medicine is taught during the second semester in the Auditorium. The aim of the course is to provide the student w in the field of pulmonary medicine. Pulmonary medicine is the science of respiratory system and its systematic study is ess student and medical doctor.

The lung participates in the exchange of respiratory gases, which is a critical procedure. Moreover, they play a role in human lead the air inside the lung and may allow viruses and other microbes enter the bronchial tree. Finally, they allow waste sut while facilitating some other functions of human metabolism.

Symptoms of the respiratory system are quite frequent, and they are a leading cause of submissions to the emergency room.

The aim of the unit “Signs and symptoms” is to understand the main respiratory symptoms, namely cough, haemoptysis, chest

The aim of the unit “Physical examination and history” is to analyze the methods of physical examination that can be used for

More specifically a careful medical history is needed, together with patient review, palpation, palpation, touch, and auscultatio

In the unit “Laboratory tests” the student understands spirometry, plethysmography, lung diffusion capacity test, cardiopul

arterial blood gases analysis, bronchoscopy, aspiration of pleural effusion and polysomnography. Moreover, more recent im

lung are analyzed, such as chest radiography and computed tomography.

The unit “Lung diseases” is dedicated to the most common respiratory diseases: Bronchial asthma, Chronic Obstructive Pul respiratory tract infections, Interstitial lung diseases, Lung cancer, Pulmonary embolism, Sleep apnoea, Acid-Base B. Tuberculosis.

Generally, by the end of this course the student will, furthermore, have developed the following general abilities:

- Understanding of the main principles of the respiratory system, the main symptoms and the correlation of the lungs to the other systems of the human body.
- Knowledge of the most important diagnostic tests, as well as their importance in the diagnosis and staging of lung diseases.
- Ability to take a complete patient history and reach a differential diagnosis.
- Knowledge of the therapeutic approach in emergency and chronic lung diseases.

General Abilities

Search, analysis and synthesis of information, using new technologies, Individual work, Team work, Development of new scientific ideas, Promotion of free, creative and inductive thinking.

400.460. COURSE CONTENT

- Introduction
 - Principles of physiology of the respiratory system 1
 - Principles of physiology of the respiratory system 2
 - Principles of physiology of the respiratory system 3
 - Principles of physiology of the respiratory system 4
 - Cough

- Sputum
- Haemoptysis
- Chest pain
- Dyspnoea
- Medical history and physical examination
 - Medical history
 - Physical examination
- Diagnostic tests
 - Pulmonary Function Tests
 - Radiology of chest diseases
- Obstructive Lung Diseases
- Bronchial asrhma
- Chronic Obstructive Lung Disease
- Oxygen therapy
- Interstitial lung diseases
- Lower respiratory tract infections
- Pleural effusion
- Tuberculosis

- Lung cancer
- Pulmonary embolism
- Sleep apnoea

401.461. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Auditorium lectures	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Auditorium lectures. Use of electronic platform of University	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Ερ</i>
	Lectures	
	Total	
STUDENT ASSESSEMNT	Written exam at the end of the lectures with multiple choice	

402.462. RECOMMENDED LITERATURE

ERS handbook, Respiratory Medicine. Paolo Palange, Anita Simonds. 2013. European Respiratory Society. ISBN: 9

Integrated Hematology 3rd Year, 6th Semester (mandatory)

Hours Teaching: 45 hours per week, Laboratory: -, Tutorial: -, Clinical Training: -

ECTS Units 4

Teachers

COURSE OUTLINE

463. GENERAL

SCHOOL	MEDICAL AND HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_631	SEMESTER OF STUDIES	6 th
COURSE TITLE	INTEGRATED HEMATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
2 WEEKS DURATION, INCLUDING ONE DAY OF WRITTEN EXAMINATIONS	25		
OVERALL 9 EDUCATIONAL DAYS			
45 TEACHING HOURS OR 58 LECTURES/PRESENTATIONS			
COURSE TYPE	SPECIFIED AREA OF INTERNAL MEDICINE, DISEASES OF THE HEMATOPOIETIC TISSUE. INTEGRATES KNOWLEDGE OF GENERAL BIOLOGY, BIOCHEMISTRY, PHYSIOLOGY AND PHARMACOLOGY AND INCORPORATES THEM IN THE EVERYDAY CLINICAL PRACTICE		
PREREQUISITE COURSES:	GENERAL BIOLOGY, BIOCHEMISTRY		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		

464. LEARNING OUTCOMES

Learning outcomes

-

This course makes an initial description of the diseases of the hematopoietic tissue, starting from the normal structure and function of the hematopoietic cells. It analyzes the pathogenesis, epidemiology, clinical manifestations, prognosis and the current therapeutic approaches of blood disorders, starting from diagnostic approach of typical clinical cases or clinical scenarios. There are specified tasks for each educational area and description of the various disease entities is relied on the currently used classification schemes. The course spend more time on the most commonly and epidemiologically more frequent diseases / disease groups, which are described in depth to the point of molecular pathology/pathophysiology. On the contraire, precise therapeutic options are not described in detail, but emphasis is given in understanding the principles of therapeutics and the general concepts of treatment strategies.

After fulfilling this course the student should know:

- The principles of normal hematopoiesis and its derangements
- The basis disease entities and disease groups of blood disorders
- The epidemiology, classification, etiopathogenesis, pathophysiology, clinical manifestations, prognosis and treatment approaches of the congenital and the acquired disorders of the hematopoietic tissue.
- The principles of transfusion therapy and the indications for supportive transfusion of the various blood products.
- The basic aspects of the current treatment approaches, such as immunotherapy, targeted biological

treatments, stem cell transplantation and cell therapies.

The students should realize that this is a rapidly expanding area of the Internal Medicine, with fast development of knowledge and understanding of the pathogenesis of blood diseases, as well as in the design and incorporation of novel treatment strategies and perspectives, resulting in continuous reconstruction and re-identification of the diagnostic criteria and disease management.

General Abilities

- Description of the various disease entities starting from diagnostic approach of clinical cases
- Incorporation of core knowledge of physiology/pathophysiology of hematopoiesis
- Offering of opportunities and incentives for further reading and studying specific tasks and pieces of knowledge
- Overview and emphasis on the most important / core knowledge and diseases
- Continuous discussion with the students and answer to questions. Inducing or provoking questions to reconstruct the framework of every disease entity by the students

- Interactive communication upon realistic clinical scenarios and generation of discussion on the recognition and comprehension of the correct diagnostic and therapeutic approaches
- Encouragement of the students to read detailed review articles upon specified areas of interest, selected by themselves, and thus further understand the current development of the hematology in practice and of the hematopoietic tissue's biology.

465. COURSE CONTENT

Description of the disease entities and disease groups of the hematopoietic tissue, with their currently used nomenclature and the latest classification systems.

Presentation of the basic physiology of the hematopoietic tissue / pathophysiology of abnormal hematopoiesis, by incorporating the background knowledge of cellular and molecular biology and biochemistry

Description of the epidemiology and the clinical features of the hematological disorders, both inherited and acquired, benign and malignant.

Presentation of the applied clinical diagnostic approach of the patients, based on the principle of {problem-oriented medical diagnosis”.

Description of 7-8 typical clinical cases from the various disease entities and processing to state of the art differential diagnosis till the confirmation of the final diagnosis.

Demonstration of typical peripheral blood, bone marrow and lymph node smear and histologic pictures, as well as imaging techniques findings for each disease entity.

The educational program in particular consists of:

- Classification and diagnostic approach of anemia and description of the various etiologic groups of anemia.
- Anemia of chronic diseases and congenital types of anemias/hemoglobinopathies.
- Principles of transfusion medicine and indications of supporting transfusions with the various blood products.
- Classification, pathogenesis and treatment of the congenital and acquired bone marrow failure syndromes.
- Classification, pathogenesis, clinical manifestations and treatment of acute leukemias.
- Chronic myeloproliferative neoplasms, myelodysplastic syndromes and overlapping disorders.
- Epidemiology, classification, pathogenesis, clinical manifestations and treatment of the

lymphoproliferative disorders.

- Multiple myeloma and other plasma cell dyscrasias.
- Autoimmune blood cytopenias and lysosomal storage disorders.
- Basic principles of the novel therapeutic approaches, such as immunotherapies, biological treatments on specific molecular targets, hematopoietic stem cell transplantation and cell therapies.
- Physiology and pathophysiology of blood coagulation, common disorders of hemostasis and thrombosis and their diagnostic approach.

466. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	EDUCATIONAL LECTURES WITH PRESENTATIONS IN AUDITORIUM	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	All presentations of the educational program, after their performance in the auditorium are uploaded on the School website, at the site of the Course. Students, who might have specific interest, besides personal discussion and queries' resolution, further learning possibilities are provided through selected literature references. These students have the opportunity to elect <i>Clinical Hematology</i> during their clinical practice in later stages of their undergraduate education.	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures of 30-45 min duration Interruption every 45-60 min	58 lectures scheduled on 45 educational hours
	Interactive teaching	At the end of each learning entity, 6 times during the 2-week course
	Further reading / Homework	The average home-spent time for the comprehension of the day's educational material is estimated to be 3 hours per day
	Duration of the course	45 hours
	Home-spent reading time	25 hours
	Preparation for examinations	12 hours
	<i>Total number of hours for the</i>	<i>85 hours</i>

	Course	
STUDENT ASSESSMENT	<p>Student evaluation is performed in Greek language and results from the ranking of written examination, which includes 4 or 5 topics for free description and 40 multiple choice questions, with 5 possible answers, and among them the one and only correct one. Examination is scored with 10 degrees as excellent and with 5 as minimum degree for passing. The final rank is calculated from the equal contribution of the complete and correct descriptive topics and from the degree of success of the 40 multiple choice questions. Students have the right to inspect the results of their evaluation up to one month following the announcement of the ranking of their examination.</p>	

467. RECOMMENDED LITERATURE

<p>- <i>Recommended basic literature: Williams Hematology 9th Edition 2016 Mc Graw-Hill, Harrison's Principles of Internal Medicine 19th Edition.</i></p> <p>- <i>Area scientific Journals: Blood, Haematologica, Leukemia, Bone Marrow Transplantation, Transfusion, Journal of Thrombosis and Hemostasis.</i></p>

CARDIOVASCULAR 3rd Year, 6th Semester (mandatory)

Hours Teaching: 45 hours per week, Laboratory: - , Tutorial: - , Clinical Training: -

ECTS Units 4

Teachers

Description

COURSE OUTLINE

468. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED611	SEMESTER OF STUDIES	SIXTH
COURSE TITLE	CARDIOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ACTS CREDITS	
LECTURES AND CLINICAL PRACTICE	40	4	
COURSE TYPE	SCIENTIFIC FIELD		
PREREQUISITE COURSES:	YES		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)	-		

469. LEARNING OUTCOMES

Learning outcomes

-
22. UNDERSTAND BASIC CARDIOLOGY INCLUDING PHYSIOLOGIC FUNCTION OF THE HEART, PATHOLOGY OF THE HEART, PATHOPHYSIOLOGY OF CARDIAC DISEASES, CLINICAL EXPRESSION, AND BASIC THERAPEUTIC STRATEGIES AND PHARMACOLOGICAL/INTERVENTIONAL/SURGICAL THERAPIES.

General Abilities

1. TEAM WORK (COOPERATING IN MANAGEMENT OF ACUTE CARDIAC PROBLEMS)

470. COURSE CONTENT

BASIC CARDIOLOGY INCLUDING PHYSIOLOGIC FUNCTION OF THE HEART, NORMAL ECG, PATHOLOGY OF THE HEART, PATHOPHYSIOLOGY OF CARDIAC DISEASES, CLINICAL EXPRESSION, DIAGNOSTIC MODALITIES, AND BASIC THERAPEUTIC STRATEGIES AND PHARMACOLOGICAL/INTERVENTIONAL/SURGICAL THERAPIES.

471. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	LECTURES
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	NO

TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	LECTURES	56
	<i>Total number of hours for the Course</i>	56
STUDENT ASSESSMENT	WRITTEN EXAMS	

472. RECOMMENDED LITERATURE

SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT AND BOOKS PROVIDED BY SCHOOL OF MEDICINE

GASTROINTESTINAL**Hours**3rd Year, 6th Semester (mandatory)

Teaching: 25 hours per week, Laboratory: -, Tutorial: -, Clinical Training: - (2 weeks)

4

ECTS Units

K. Thomopoulos

Teachers**COURSE OUTLINE****Description****403.473. GENERAL****Curriculum**

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_641	SEMESTER OF STUDIES	SIXTH6TH
COURSE TITLE	GASTROENTEROLOGY - HEPATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	25		
COURSE TYPE	FIELD OF SCIENCE		
PREREQUISITE COURSES:	NO		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?II		

404.474. LEARNING OUTCOMES

Learning outcomes

-

The educational objectives in Gastroenterology and Hepatology course intend to teach the student history taking, etiopathogenesis, differential diagnosis, symptoms, diagnosis, complications and their digestive disorders.

By the end of this course the students will be able to be aware of:

- 1) *the proper and complete clinical examination of the digestive system*
- 2) *the definitions*
- 3) *the diagnostic algorithms*
- 4) *the available treatments, their indications and the relevant algorithms*

General Abilities

Generally, by the end of this course the student will have developed the following general abilities (fr

- *Decision making*
- *Autonomous (Independent) work*
- *Working in an interdisciplinary environment*

- *Production of innovative research ideas*
- *Promotion of free, creative and inductive thinking*

405.475. COURSE CONTENT

The content of integrated study in Gastroenterology-Hepatology concerns the main and most representative of the digestive system. The educational units that are taught include:

CLINICAL EXAMINATION OF DIGESTIVE SYSTEM - DIAGNOSTIC ACCESS OF DIGESTIVE DISORDERS - DYSPEPSIA - ESOPHAGEAL CANCER - PEPTIC ULCER - STOMACH CANCER - UPPER GASTROINTESTINAL DISORDERS - CHRONIC DIARRHEA - MALABSORPTION SYNDROMES - IDIOPATHIC INFLAMMATORY BOWEL DISEASES - DIVERTICULITIS - LOWER GASTROINTESTINAL BLEEDING - COLORECTAL CANCER - ACUTE ABDOMINAL DISORDERS - PANCREATOBILIARY MALIGNANCIES - JAUNDICE - ACUTE AND CHRONIC PANCREATITIS - MESAEN-TERIC VENOUS THROMBOSIS - ANEURYSM - ABDOMINAL PAIN IN GYNECOLOGICAL DISEASES - ANATOMY AND PHYSIOLOGY – DIFFERENTIAL DIAGNOSIS OF LIVER DISEASES - ACUTE AND CHRONIC LIVER DISEASES - BILIARY DISEASES - LIVER CIRRHOSIS - PORTAL HYPERTENSION - VESICULO-BILIARY BLEEDING - ASCITES - SPONTANEOUS BACTERIAL PERITONITIS - HEPATORENAL SYNDROME - ENCEPHALOPATHY - HEPATOCELLULAR CARCINOMA - LIVER TRANSPLANTATION

406.476. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Teaching face to face.
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (in teaching). The lectures' content of the course will be uploaded on the internet through the e-class electronic platform.

TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	Auditorium Courses	2 weeks – 6 th semester
STUDENT ASSESMENT	Written final examination with multiple choice questions and short answers	

407.477. RECOMMENDED LITERATURE

Bates' Guide to Physical Examination and History Taking

Harrison's Principles of Internal Medicine

Kumar and Clark's Clinical Medicine,

Davidson's Principles and Practice of Medicine

CURRENT Medical Diagnosis and Treatment 2018

Related scientific journals:

Gastroenterology, Gut, Hepatology, J Hepatology

**MUSCULOSKELETAL
SYSTEM – CONNECTIVE
TISSUE DISEASES**

Hours

**ECTS Units
Teachers**

3rd Year, 6th Semester (mandatory)

Teaching: 25 hours per week, Laboratory: - , Tutorial: - , Clinical Training: - (2 weeks)

4

S.N. Liossis, I. Panagiotopoulos, N. Farmakakis

COURSE OUTLINE

408.478. GENERAL

SCHOOL	Faculty of Health Sciences		
DEPARTMENT	Medical School		
LEVEL OF COURSE	UnderPregraduate		
COURSE CODE	MED_651	SEMESTER OF STUDIES	6 th
COURSE TITLE	MUSCULOSKELETAL SYSTEM – CONNECTIVE TISSUE DISEASESRheumatology		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	30/week 42 total	4	
COURSE TYPE	Fields of Science		
PREREQUISITE COURSES:	none		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)			

409.479. LEARNING OUTCOMES

Lerning outcomes

-

The Rheumatology course lasts 7 days during the 6th semester. The course focuses on the six more common rheumatic diseases

- 1) RA
- 2) SLE
- 3) Spondyloarthropathies
- 4) Systemic Sclerosis/inflammatory myositis
- 5) Systemic vasculitides
- 6) Acute monoarthritis (crystal-induced and septic arthritis)

Teaching is based on a patient-based approach. Each clinical entity is presented and discussed via a prototype patient. At the beginning, a prototype patient suffering from one of the above mentioned rheumatic diseases is presented (medical history, physical examination findings, lab tests etc). The students first familiarize with each clinical entity by discussing in detail the prototype patient. Later on, basic pathogenesis, epidemiology, prognosis and treatment is presented and discussed

At the end of the course students will be able to recognize patients with the most common rheumatic diseases and will have the basic knowledge related to the pathogenesis and treatment of systemic rheumatic diseases

General Abilities
<i>Autonomous work</i> <i>Group work</i> <i>Working in an interdisciplinary environment</i>

410.480. COURSE CONTENT

<p><u>Students are taught the following most common rheumatic diseases using a patient-centered approach</u></p> <p>7) RA</p> <p>8) SLE</p> <p>9) Spondyloarthropathies</p> <p>10) Systemic Sclerosis/inflammatory myositis</p> <p>11) Systemic vasculitides</p> <p>Acute monoarthritis (crystal-induced and septic arthritis)</p>
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411.481. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lecture at the Amphitheatre
USE OF INFORMATION AND	The electronic platform “eclass” is freely available to all students

COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lecture at the Amphitheatre	6 hours a day for 7 days
STUDENT ASSESSEMENT	Written exams at the end of the course consisted of 40 multiple choice questions (50% of the final mark) and 4 general knowledge questions (50% of the final mark)	

412.482. RECOMMENDED LITERATURE

URINARY TRACT SYSTEM 3rd Year, 6th Semester (mandatory)
Hours Teaching: 25 hours per week, Laboratory: - , Tutorial: - , Clinical Training: - (1,5 weeks)
ECTS Units 4
Teachers D. Goumenos, E. Papachristou

Description

COURSE OUTLINE

413.483. GENERAL

SCHOOL	Medical Sciences
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DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_611	SEMESTER OF STUDIES	6 th (mandatory)
COURSE TITLE	URINARY TRACT SYSTEM (Integration I)		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		25	4
COURSE TYPE	Background, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)			

414.484. LEARNING OUTCOMES

Leraning outcomes
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Teaching is performed through lectures in the auditorium, while for a few days the students visit in groups the nephrology clinic where interesting cases are presented and discussed. Learning objectives:

Students are taught all aspects of clinical nephrology. Special attention is specifically given to certain topics and with the successful completion of the course, the student will be able to describe the following

- Physiology of kidney function: glomerular filtration, urinary tubules functions, urine concentration and dilution mechanisms.
- Urinary tract anatomy (kidneys, ureters, bladder)
- Histology of renal tissue: glomerulus, urinary tubules, interstitial space.
- Basic principles of clearance of substances - glomerular filtration rate calculation
- General findings in urinalysis. Findings in urinary sediment

- Haematuria
- Albuminuria
- Nephrotic syndrome
- Nephritic syndrome
- Mixed syndromes

- Body Acid-base balance and mechanisms of its conservation (body normal pH, importance of pH changes, daily production of hydrogen ions from metabolism). Description of the regulatory systems that contribute to the maintenance of acid-base balance. (Extracellular space: bicarbonate system, proteins) (intracellular space: intracellular proteins, hemoglobin, phosphates).
- Recognition of the role of the kidneys in maintaining acid-base balance. (Urinary tubules: elimination of hydrogen ions, bicarbonate ions and reabsorption of bicarbonate, renewal system in the circulation).
- recognition of the role of the lungs to maintain the acid-base balance. (Lungs: elimination of

carbon dioxide (CO₂) which is formed in the circulation as a result of the hydrogen ion binding of bicarbonate ions to maintain the pH constant).

- Definition of decompensated and non decompensated metabolic disorders (acidosis or alkalosis).
- Mechanisms of decompensation of acid-base balance disorders. (Metabolic disorders: decompensation of the respiratory system, eg, tachypnea in acidosis) (respiratory disorders: decompensation of kidney).
- Diagnosis and differential diagnosis of the causes of metabolic acidosis or alkalosis (blood gases, determination of anion gap).
- Treatment of the acid-base balance disorders.

- Mechanisms responsible for maintaining the balance of potassium, sodium, calcium, magnesium, phosphorus organism and factors affecting them (acid-base equilibrium, insulin, aldosterone, antidiuretic hormone, parathyroid hormone).
- Recognition of clinical signs related to potassium, sodium, calcium, magnesium and phosphorus disorders.

- Causes that are responsible for causing electrolyte imbalances and search for those causes by taking a detailed history.
- Treatment of patients with electrolyte imbalances, in particular those with hypo- or hyperkalemia, hypo- or hypernatremia and hypo- or hypercalcemia.

- Identification of the cause, the diagnostic approach and treatment of glomerular diseases constitute a major objective of the training program
- Clinical syndromes of glomerular diseases (nephritic - nephrotic - mixed)

- Idiopathic glomerulonephritides
- Secondary glomerulonephritides

- Definition of acute kidney injury (AKI)
- Pathogenesis, predisposing factors and incidence of acute kidney injury.
- Causes and differential diagnosis of the causes of acute kidney injury: Recognition of prerenal, intrinsic and postrenal causes of AKI from history taking, physical examination and laboratory and imaging evaluation (biochemical blood tests and urinalysis, urinary tract ultrasound, etc.).

- Complications of acute kidney injury
- Treatment of acute kidney injury: Basic principles of treatment of AKI due to prerenal, intrinsic and postrenal causes. Indications for renal replacement therapy.

- Staging - impact - etiology - clinical picture - treatment of Chronic Kidney Disease.

- Definitions and classification of Hypertension. Pathophysiology - clinical manifestations - patient investigation - treatment of hypertension (conservative - pharmaceutical). Secondary forms of hypertension.
- Dialysis methods (Hemodialysis)
- Peritoneal Dialysis
- Kidney Transplantation

General Abilities

- **Anatomy - physiology of the urinary system**
- **Clinical syndromes of renal diseases**
- **Acid-base balance disorders**
- **Water and electrolytes disorders**
- **Glomerular diseases**
- **Acute kidney injury**
- **Chronic kidney disease**
- **Hypertension**
- **Diabetes and kidney**
- **Systemic diseases and kidney**
- **Renal replacement therapy**

416.486. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Teaching is performed through lectures in the auditorium, while for a few days the students visit in groups the nephrology clinic where interesting cases are presented and discussed.
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USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support Learning through the e-class e-class platform	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	Lectures	35
	Studying	42
STUDENT ASSESSEMENT	Written final exam (100%) including: <ul style="list-style-type: none"> - Multiple choice questions (50%) - Analysis of pathophysiological mechanisms, clinical picture, diagnosis and treatment of renal disease entities. 	

417.487. RECOMMENDED LITERATURE

Harrison's Nephrology and Acid-Base Disorders, 1st Edition, J. Larry Jameson, Joseph Loscalzo.

DERMATOLOGY 3rd Year, 6th Semester (mandatory)

Hours Teaching: 30 hours per week, Laboratory: - , Tutorial: - , Clinical Training: -

ECTS Units 4

Teachers

Description COURSE OUTLINE

418.488. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICAL		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED671	SEMESTER OF STUDIES	6thSIXTH
COURSE TITLE	DERMATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, seminars and laboratory work	30	4	
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	Basic principles of human anatomy, physiology, genetics, pharmacology, histopathology, biochemistry, microbiology and immunology.		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)			

5. LEARNING OUTCOMES

Leraning outcomes <ul style="list-style-type: none"> •

The main goal of teaching is to assist the students with the learning and understanding the most important aspects of epidemiology, etiopathogenesis, clinical and histopathological picture, prognosis and treatment of diseases of the skin, its appendages, the visible mucosae and of the sexually transmitted diseases.

By the end of this course the student will be able to :

1. Obtain a relevant dermatologic history
2. Perform physical examination of the integumentary system
3. Describe accurately morphology of lesions and eruptions on patients
4. Diagnose common and important cutaneous disorders and sexually transmitted diseases
5. Demonstrate familiarity with common diagnostic procedures(immunopathology, molecular biology, immunology, medical engineering, photobiology, and allergology)
6. Demonstrate knowledge of basic principles and application of topical and systemic therapy of cutaneous disorders and sexually transmitted diseases.

General Abilities

Autonomous (Independent) work

6. COURSE CONTENT

Undergraduate dermatological teaching deals with the disorders of skin and its appendages and those visible mucosae that are included in the following sections :

1. **Introduction** to embryology, anatomy, histology, physiology, and immunobiology of the skin

2. **Keratinization disorders** :

Psoriasis, ichthyosis and syndromes, Reiter's syndrome, erythroderma, lichen planus, Darier's (porokeratosis Mibelli, Pityriasis rubra pilaris, acne, rosacea

3. Cutaneous hypersensitivity reactions :

Urticaria, angioedema, atopic dermatitis, contact dermatitis, drug reactions, vasculitis

4. Infectious diseases of the skin and Sexually transmitted diseases :

Viral infections, bacterial infections, fungal infections, parasitic infections, syphilis, infection caused by *Neisseria gonorrhoeae*, soft ulcer caused by *Haemophilus ducreyi*, granuloma inguinale caused by *Klebsiella granulomatis*, Chlamydia trachomatis infections, human papilloma virus infections

5. Autoimmune dermatoses :

Dühring's disease, bullous pemphigoid, pemphigus, mucosal pemphigoid, linear IgA dermatitis

6. Disorders of nails**7. Benign and malignant cutaneous neoplasms :**

Seborrheic keratosis, actinic keratosis, melanocytic nevi, basal cell carcinoma, squamous cell carcinoma, keratoacanthoma, melanoma, nevi

8. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. power teaching). The lectures content of the course for each chapter are present in the form of a series of slides.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμ.</i>
	Lectures (30 conduct hours per week x 1 week)	30

	Total number of hours for the Course (7.5 hours of work-load per ECTS credit)	30
STUDENT ASSESMENT	Oral examination after the end of the semester.	

9. RECOMMENDED LITERATURE

20.10. Dermatology Essentials, Bologna & Schaeffer, Eds. Paschalidis

Integrated Hematology 3rd Year, 6th Semester (mandatory)

Hours Teaching: 45 hours per week, Laboratory: - , Tutorial: - , Clinical Training: -

ECTS Units 4

Teachers

COURSE OUTLINE

419. GENERAL

SCHOOL	MEDICAL AND HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_631	SEMESTER OF STUDIES	6 th
COURSE TITLE	INTEGRATED HEMATOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
2 WEEKS DURATION, INCLUDING ONE DAY OF WRITTEN	25		

EXAMINATIONS			
OVERALL 9 EDUCATIONAL DAYS			
45 TEACHING HOURS OR 58 LECTURES/PRESENTATIONS			
COURSE TYPE	SPECIFIED AREA OF INTERNAL MEDICINE, DISEASES OF THE HEMATOPOIETIC TISSUE. INTEGRATES KNOWLEDGE OF GENERAL BIOLOGY, BIOCHEMISTRY, PHYSIOLOGY AND PHARMACOLOGY AND INCORPORATES THEM IN THE EVERYDAY CLINICAL PRACTICE		
PREREQUISITE COURSES:	GENERAL BIOLOGY, BIOCHEMISTRY		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED1176		

420. LEARNING OUTCOMES

<p>Learning outcomes</p> <ul style="list-style-type: none"> •
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This course makes an initial description of the diseases of the hematopoietic tissue, starting from the normal structure and function of the hematopoietic cells. It analyzes the pathogenesis, epidemiology, clinical manifestations, prognosis and the current therapeutic approaches of blood disorders, starting from diagnostic approach of typical clinical cases or clinical scenarios. There are specified tasks for each educational area and description of the various disease entities is relied on the currently used classification schemes. The course spend more time on the most commonly and epidemiologically more frequent diseases / disease groups, which are described in depth to the point of molecular pathology/pathophysiology. On the contraire, precise therapeutic options are not described in detail, but emphasis is given in understanding the principles of therapeutics and the general concepts of treatment strategies.

After fulfilling this course the student should know:

- The principles of normal hematopoiesis and its derrangements
- The basis disease entities and disease groups of blood disorders
- The epidemiology, classification, etiopathogenesis, pathophysiology, clinical manifestations, prognosis and treatment approaches of the congenital and the acquired disorders of the hematopoietic tissue.
- The principles of transfusion therapy and the indications for supportive transfusion of the various blood products.
- The basic aspects of the current treatment approaches, such as immunotherapy, targeted biological treatments, stem cell transplantation and cell therapies.

The students should realize that this is a rapidly expanding area of the Internal Medicine, with fast development of knowledge and understanding of the pathogenesis of blood diseases, as well as in the design and incorporation of novel treatment strategies and perspectives, resulting in continuous reconstruction and re-identification of the diagnostic criteria and disease management.

General Abilities

- Description of the various disease entities starting from diagnostic approach of clinical cases
- Incorporation of core knowledge of physiology/pathophysiology of hematopoiesis
- Offering of opportunities and incentives for further reading and studying specific tasks and pieces of knowledge
- Overview and emphasis on the most important / core knowledge and diseases
- Continuous discussion with the students and answer to questions. Inducing or provoking questions to reconstruct the framework of every disease entity by the students
- Interactive communication upon realistic clinical scenarios and generation of discussion on the recognition and comprehension of the correct diagnostic and therapeutic approaches
- Encouragement of the students to read detailed review articles upon specified areas of interest, selected by themselves, and thus further understand the current development of the hematology in practice and of the hematopoietic tissue's biology.

421. COURSE CONTENT

Description of the disease entities and disease groups of the hematopoietic tissue, with their currently used nomenclature and the latest classification systems.

Presentation of the basic physiology of the hematopoietic tissue / pathophysiology of abnormal hematopoiesis, by incorporating the background knowledge of cellular and molecular biology and biochemistry

Description of the epidemiology and the clinical features of the hematological disorders, both inherited and acquired, benign and malignant.

Presentation of the applied clinical diagnostic approach of the patients, based on the principle of {problem-oriented medical diagnosis”.

Description of 7-8 typical clinical cases from the various disease entities and processing to state of the art differential diagnosis till the confirmation of the final diagnosis.

Demonstration of typical peripheral blood, bone marrow and lymph node smear and histologic pictures, as well as imaging techniques findings for each disease entity.

The educational program in particular consists of:

- Classification and diagnostic approach of anemia and description of the various etiologic groups of anemia.
- Anemia of chronic diseases and congenital types of anemias/hemoglobinopathies.
- Principles of transfusion medicine and indications of supporting transfusions with the various blood products.
- Classification, pathogenesis and treatment of the congenital and acquired bone marrow failure syndromes.
- Classification, pathogenesis, clinical manifestations and treatment of acute leukemias.
- Chronic myeloproliferative neoplasms, myelodysplastic syndromes and overlapping disorders.
- Epidemiology, classification, pathogenesis, clinical manifestations and treatment of the

lymphoproliferative disorders.

- Multiple myeloma and other plasma cell dyscrasias.
- Autoimmune blood cytopenias and lysosomal storage disorders.
- Basic principles of the novel therapeutic approaches, such as immunotherapies, biological treatments on specific molecular targets, hematopoietic stem cell transplantation and cell therapies.
- Physiology and pathophysiology of blood coagulation, common disorders of hemostasis and thrombosis and their diagnostic approach.

422. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	EDUCATIONAL LECTURES WITH PRESENTATIONS IN AUDITORIUM	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	All presentations of the educational program, after their performance in the auditorium are uploaded on the School website, at the site of the Course. Students, who might have specific interest, besides personal discussion and queries' resolution, further learning possibilities are provided through selected literature references. These students have the opportunity to elect <i>Clinical Hematology</i> during their clinical practice in later stages of their undergraduate education.	
TEACHING ORGANIZATION	Teaching Method	Semester Workload
	Lectures of 30-45 min duration Interruption every 45-60 min	58 lectures scheduled on 45 educational hours
	Interactive teaching	At the end of each learning entity,

		6 times during the 2-week course
	Further reading / Homework	The average home-spent time for the comprehension of the day's educational material is estimated to be 3 hours per day
	Duration of the course	45 hours
	Home-spent reading time	25 hours
	Preparation for examinations	12 hours
	Total number of hours for the Course	85 hours
STUDENT ASSESSMENT	<p>Student evaluation is performed in Greek language and results from the ranking of written examination, which includes 4 or 5 topics for free description and 40 multiple choice questions, with 5 possible answers, and among them the one and only correct one. Examination is scored with 10 degrees as excellent and with 5 as minimum degree for passing. The final rank is calculated from the equal contribution of the complete and correct descriptive topics and from the degree of success of the 40 multiple choice questions. Students have the right to inspect the results of their evaluation up to one month following the announcement of the ranking of their examination.</p>	

423. RECOMMENDED LITERATURE

- Recommended basic literature: **Williams Hematology 9th Edition 2016 Mc Graw-Hill, Harrison's Principles of Internal Medicine 19th Edition.**

- Area scientific Journals: **Blood, Haematologica, Leukemia, Bone Marrow Transplantation, Transfusion, Journal of Thrombosis and Hemostasis.**

CARDIOVASCULAR 3rd Year, 6th Semester (mandatory)

Hours Teaching: 45 hours per week, Laboratory: - , Tutorial: - , Clinical Training: -

ECTS Units 4

Teachers

Description

COURSE OUTLINE

424. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED611	SEMESTER OF STUDIES	SIXTH
COURSE TITLE	CARDIOLOGY		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ACTS CREDITS	
LECTURES AND CLINICAL PRACTICE	40	4	

COURSE TYPE	SCIENTIFIC FIELD
PREREQUISITE COURSES:	YES
TEACHING AND ASSESSMENT LANGUAGE:	GREEK
THE COURSE IS OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBPAGE (URL)	-

425. LEARNING OUTCOMES

Learning outcomes
<ul style="list-style-type: none"> •
22. UNDERSTAND BASIC CARDIOLOGY INCLUDING PHYSIOLOGIC FUNCTION OF THE HEART, PATHOLOGY OF THE HEART, PATHOPHYSIOLOGY OF CARDIAC DISEASES, CLINICAL EXPRESSION, AND BASIC THERAPEUTIC STRATEGIES AND PHARMACOLOGICAL/INTERVENTIONAL/SURGICAL THERAPIES.
General Abilities
1. TEAM WORK (COOPERATING IN MANAGEMENT OF ACUTE CARDIAC PROBLEMS)

426. COURSE CONTENT

BASIC CARDIOLOGY INCLUDING PHYSIOLOGIC FUNCTION OF THE HEART, NORMAL ECG, PATHOLOGY OF THE HEART, PATHOPHYSIOLOGY OF CARDIAC DISEASES, CLINICAL EXPRESSION, DIAGNOSTIC MODALITIES, AND BASIC THERAPEUTIC STRATEGIES AND PHARMACOLOGICAL/INTERVENTIONAL/SURGICAL THERAPIES.

427. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	LECTURES	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	NO	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	LECTURES	56
	<i>Total number of hours for the Course</i>	56
STUDENT ASSESSMENT	WRITTEN EXAMS	

428. RECOMMENDED LITERATURE

SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT AND BOOKS PROVIDED BY SCHOOL OF MEDICINE

INTEGRATION STUDY MODULES - PART II

COURSES

ENDOCRIN GLANDS 4th year, 7th semester (mandatory)
Hours Teaching: 45, Laboratory-, Tutorial-, Clinic- (per week)
ECTS Units 4

Teachers Th. Alexandridis, M.Asimakopoulou, N. Georgopoulos, A.Kourea, V.Kyriazopoulou, K.Markou, J.Habeos,.

Description

COURSE OUTLINE

429.489. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_711	SEMESTER OF STUDIES	7th
COURSE TITLE	ENDOCRINE SYSTEM		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	25	4	

HEALTH

COURSE TYPE	SCIENTIFIC AREA	
PREREQUISITE COURSES:		
TEACHING AND ASSESSMENT LANGUAGE:	GREEK	
THE COURSE IS OFFERED TO ERASMUS STUDENTS		
COURSE WEBPAGE (URL)	eclass.upatras.gr	

430.490. LEARNING OUTCOMES

Leraning outcomes <ul style="list-style-type: none">•
<u>Knowledge of Basic Sciences</u> <ol style="list-style-type: none">1. Anatomy of the endocrine glands2. Physiology<ul style="list-style-type: none">-Hormone synthesis and metabolism-Regulation of hormone secretion-Hormone action – Receptors – Types of Receptors – Receptor signa

intracellular signal transmission

-Axes: Hypothalamus-Pituitary-Thyroid

Hypothalamus-Pituitary -Gonads

Hypothalamus-Pituitary - Adrenals

GH-RH-Growth Hormone-IGF-I

-The concept of feed-back regulation of hormone secretion

-Principles of hormone assays

3. Histology and pathology of the endocrine glands

Learning outcomes

Disease definition

Pathogenesis

Clinical signs and symptoms

Laboratory work-up

Diagnosis

Differential diagnosis

Therapy

General Abilities

Data and information gathering, analysis and synthesis
Decision making
Autonomic and team work
Working in an international environment

431.491. COURSE CONTENT

Hypothalamus – Pituitary

Clinical case (headache, hemi-anopsia, reduced libido)

Anatomy

Hypothalamus – Nuclei

Pituitary

General

Neuro-hormones (releasing hormones)

Pituitary hormones

Receptors

GnRH – Pulsatile secretion-circadian rhythms

The concept of feed-back regulation of hormone secretion

Growth Hormone (GH)

Acromegaly

GH deficiency

Prolactin

Tumors

Pituitary adenomas

Hypothalamic and parasellar tumors

Pituitary Failure

Adenohypophysis

Introduction-Etiology-Therapy

Hypophysitis

Posterior Lobe (Neurohypophysis)

Diabetes insipidus

Syndrome of Inappropriate ADH secretion (SIADH)

Hypogonadism

Hypogonatrophic

Hypergonadotropic

Disorders of Menstrual Period

Menopause

Diabetes Mellitus

Clinical Case: (polyuria, polydipsia, weight loss, muscle weakness)

Diabetes mellitus

Epidemiology

Diagnosis

Types of Diabetes

Pancreas (anatomy, islets, physiology, hormones)

Insulin (Secretion, Action)

Glucagon (Secretion, Action)

Type 2 Diabetes Mellitus

Pathogenesis

Clinical presentation

Metabolic syndrome

Therapy

MODY

Gestational Diabetes

Type 1 Diabetes Mellitus – LADA

Pathogenesis

Clinical presentation

Therapy

Complications

Acute: Ketosis

Hyperosmosis

Chronic:

Pathogenesis (general)

Retinopathy

Neuropathy

Nephropathy

Atherosclerosis

Diabetic foot

Hypoglycemia

General

In diabetes

In non-diabetic

Lipids

Introduction

Lipoproteins

Lipoprotein metabolism

Primary dyslipidemias

Secondary dyslipidemia

Therapy

Obesity

Etiology
Complications
Treatment

Thyroid

Embryology
Anatomy
Physiology
Hypothalamic-Pituitary-Thyroid axis
Synthesis and secretion of thyroid hormones
Thyroid hormone transport and action
Iodine deficiency
Goiter
Thyroid nodule
Evaluation of thyroid function
Hyperthyroidism
Hypothyroidism
Thyroiditides
Thyroid disorders in pregnancy
Thyroid cancer

Mineral Metabolism - Hormones and disorders

Structure and Function of the Skeleton

Bone remodeling and its regulation

Calcium and phosphorus homeostasis

The system of vitamin D

- Hypercalcemia

 - Hyperparathyroidism

- Hypocalcemia

 - Hypoparathyroidism

 - Pseudo-hypoparathyroidism

- Pagets disease

- Osteoporosis

 - Epidemiology

 - Pathogenesis

 - Prevention

 - Treatment

Adrenals

Clinical case: A patient with orthostatic hypotension and skin pigmentation

Anatomy- Histology

Hormones: Glucocorticoids

Mineralocorticoids

Catecholamines

Hypothalamic-Pituitary-Adrenal axis

CRH-ACTH

Hormone action

Adrenal Insufficiency

ADDISON's disease

Etiology

Clinical presentation

Diagnosis

Differential diagnosis

Treatment

Acute adrenal insufficiency

Glucocorticoid Hypersecretion (CUSHING's syndrome)

Etiology

Clinical presentation

Laboratory findings

Diagnosis

Treatment

Adrenal incidentalomas
Endocrine Hypertension

Regulation of aldosterone secretion

Primary aldosteronism

Clinical presentation

Diagnosis

Treatment

Catecholamines

Pheochromocytoma- Paragangliomas

Clinical presentation

Diagnosis

Treatment

432.492. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face in the amphitheater
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Power point presentations
TEACHING ORGANIZATION	

	Lectures		
STUDENT ASSESMENT	Greek language Multiple choice questions Short essays		

433.493. RECOMMENDED LITERATURE

Harrison's Principles of Internal Medicine
Davidson's Internal Medicine,
The Endocrine System at a Glance (Ben Greenstein, Diana Wood)

PROMOTION/ DISEASE PREVENTION/ COMMUNITY MEDICINE 4th year, 7th semester (mandatory)

Hours Teaching: 25, Laboratory-, Tutorial-, Clinic- (per week)

ECTS Units 2

Teachers E. Gelastopoulou, A. Vantarakis

Description

COURSE OUTLINE

434.494. GENERAL

SCHOOL	HEALTH SCIENCE		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_75 1	SEMESTER OF STUDIES	SEVENTH
COURSE TITLE	HEALTH PROMOTION/PREVENTIVE MEDICINE		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures		25	2
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	Typically, there are not prerequisite courses		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)			

435.495. LEARNING OUTCOMES

Learning outcomes

-

The course is the main introductory course in the concepts of Health Promotion, Disease Prevention and Community Medicine.

The subject matter of the course is to introduce students to the basic principles of preventive medicine, to make them understand the levels of prevention, i.e. primary and secondary levels. The value of systematic screening and of diagnostic tests are analyzed with emphasis on its implementation regarding Preventive Medicine. Methods to prevent heart disease and malignant neoplasms in the community are shown and discussed.

The methods of infectious diseases control in the Community and the methodology of epidemiological observation are shown and analyzed.

The subject matter of the course includes furthermore basic principles of Health Promotion, Organization and Evaluation of Health Promotion programs, focusing on Health Promotion in the community, at work and at school.

Finally, part of the subject matter of the course is the introduction in concepts of Public Health, Health Systems and Health Policies.

By the end of this course the student will be able to :

- understand the principles of Preventive Medicine
- gain knowledge about the levels of prevention
- gain knowledge about diagnostic tests and when they should be used in the context

of screening

- gain knowledge of the methods of preventing heart disease, malignant neoplasms and other chronic diseases in the community
- use the techniques and methods of epidemiological observation
- organize Health Promotion programs in the community, at workplace, in schools and evaluate them
- understand the concept of Public Health, the way in which Health Systems are operated and organized, and the Health Policy Strategies

General Abilities

- Searching, analyzing and synthesizing facts and information, as well as using necessary technologies
- Decision making
- Autonomous working
- Group working

436.496. COURSE CONTENT

- i. Basic Principles of Preventive Medicine
- ii. Prevention levels
- iii. Primary and secondary prevention
- iv. Systematic screening
- v. Evaluation of diagnostic tests, implementation in Preventive Medicine
- vi. Prevention of heart disease, malignant neoplasia and other chronic diseases in the community
- vii. Control of infectious diseases in the community
- viii. Epidemiological Surveillance
- ix. Basic Principles of Health Promotion
- x. Health Promotion Programs
- xi. Promoting Health in the community, workplace, school
- xii. Public health
- xiii. Health Systems and Health Policies

437.497. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures, comprehension exercises	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	The learning process is supported by the e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures πόσες την εβδομάδα αναλυτικά	25

	Comprehension exercises, Hours for private study of the student	10
	Final examination	3
	Total number of hours for the Course	38
STUDENT ASSESSMENT	<p>Written examination including:</p> <ul style="list-style-type: none"> • Multiple choice questions • Exercises <p>Minimum passing grade: 5</p>	

438.498. RECOMMENDED LITERATURE

1. M. Arvanitidou Vagiona. Social and Preventive Medicine. University Press, Thessaloniki 2009.
2. D. Trichopoulos, V. Kalapothaki, E. Petridou. Preventive Medicine & Public Health. ZETA Pub., Athens 2000
3. Notes of lecturers. A. Vandarakis, E. Gerastopoulou, M. Leotsinidis

COURSE OUTLINE

499. GENERAL

SCHOOL	HEALTH SCIENCE		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_751	SEMESTER OF STUDIES	SEVENTH
COURSE TITLE	HEALTH PROMOTION/PREVENTIVE MEDICINE		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	25	2
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	Typically, there are not prerequisite courses		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)			

500. LEARNING OUTCOMES

Learning outcomes

-

The course is the main introductory course in the concepts of Health Promotion, Disease Prevention and Community Medicine.

The subject matter of the course is to introduce students to the basic principles of preventive medicine, to make them understand the levels of prevention, i.e. primary and secondary levels. The value of systematic screening and of diagnostic tests are analyzed with emphasis on its implementation regarding Preventive Medicine. Methods to prevent heart disease and malignant neoplasms in the community are shown and discussed.

The methods of infectious diseases control in the Community and the methodology of epidemiological observation are shown and analyzed.

The subject matter of the course includes furthermore basic principles of Health Promotion, Organization and Evaluation of Health Promotion programs, focusing on Health Promotion in the community, at work and at school.

Finally, part of the subject matter of the course is the introduction in concepts of Public Health, Health Systems and Health Policies.

By the end of this course the student will be able to :

- understand the principles of Preventive Medicine
- gain knowledge about the levels of prevention
- gain knowledge about diagnostic tests and when they should be used in the context of

screening

- gain knowledge of the methods of preventing heart disease, malignant neoplasms and other chronic diseases in the community
- use the techniques and methods of epidemiological observation
- organize Health Promotion programs in the community, at workplace, in schools and evaluate them
- understand the concept of Public Health, the way in which Health Systems are operated and organized, and the Health Policy Strategies

General Abilities

- Searching, analyzing and synthesizing facts and information, as well as using necessary technologies
- Decision making
- Autonomous working
- Group working

501. COURSE CONTENT

- i. Basic Principles of Preventive Medicine
- ii. Prevention levels
- iii. Primary and secondary prevention
- iv. Systematic screening
- v. Evaluation of diagnostic tests, implementation in Preventive Medicine
- vi. Prevention of heart disease, malignant neoplasia and other chronic diseases in the community
- vii. Control of infectious diseases in the community
- viii. Epidemiological Surveillance
- ix. Basic Principles of Health Promotion
- x. Health Promotion Programs
- xi. Promoting Health in the community, workplace, school
- xii. Public health
- xiii. Health Systems and Health Policies

502. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Lectures, comprehension exercises	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	The learning process is supporting by the e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures πόσες την εβδομαδα αναλυτικά	25
	Comprehension exercises, Hours for private	10

	study of the student	
	Final examination	3
	Total number of hours for the Course	38
STUDENT ASSESSMENT	<p>Written examination including:</p> <ul style="list-style-type: none"> • Multiple choice questions • Exercises <p>Minimum passing grade: 5</p>	

503. RECOMMENDED LITERATURE

1. M. Arvanitidou Vagiona. Social and Preventive Medicine. University Press, Thessaloniki 2009.
2. D. Trichopoulos, V. Kalapothaki, E. Petridou. Preventive Medicine & Public Health. ZETA Pub., Athens 2000
3. Notes of lecturers. A. Vandarakis, E. Gerastopoulou, M. Leotsinidis

ONCOLOGY – 4th year, 7th semester (mandatory)

INFECTIOUS DISEASES

Hours Teaching: -, Laboratory -, Tutorial -, Clinic 25 (per week)

ECTS Units 4

Teachers C. Gogos, M. Maragkos, G. Panos, C. Kalofonos, T. Petsas, D. Spyropoulos, T. Makatsoris, T. Papadas, E. Kourea, B. Zolota, K. Asimakopoulos, E. Gelastopoulou, A. Tsamantas, G. Antonakis, A. Athanasopoulos, D. Kardamakis, K. Markou, A. Symeonidis, K. Thomopoulos.

Description

COURSE OUTLINE

439.504. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_761	SEMESTER OF STUDIES	7 th (mandatory)
COURSE TITLE	Terminal patient - Oncology		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	21	4	
COURSE TYPE	Background, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)			

440.505. LEARNING OUTCOMES

Learning outcomes

-

Teaching is performed through lectures in the auditorium.

Students are taught all aspects of Oncology as well as principles of the management of the terminal patient with cancer. Special attention is given to certain topics and with the successful completion of the course, the student will be able to describe the following

- Principles of oncogenesis
- Diagnostic and therapeutic approach of cancer patients
- Clinical problems of cancer patients
 - Abdominal pain, cachexia, anemia, abdominal mass
 - Hemoptysis, hoarseness, chest pain, epilepsy
- Diagnostic approach of the patient with abdominal mass, management of jaundice, ERCP
- Management of ascites and electrolyte disturbances
- The role of tumor markers in the diagnosis of malignant diseases. Imaging methods in Nuclear Medicine
- Radiologic diagnosis of the oncologic patient

- Dyspnea – Hemoptysis in cancer patients: diagnostic approach – supportive measures
- Breast mass: diagnostic approach-staging-clinical features of breast cancer
- Pathogenesis of breast cancer – prognostic factors
- Principles of radiation therapy of breast cancer
- Principles of systemic therapy of breast cancer
- Tumors of the endocrine system
- Psychiatric disorders of cancer patients: prevention, diagnosis, management
- Communication and counselling of the cancer patient
- Emergencies in Oncology – Management of cancer pain
- Gastrointestinal tumors: diagnostic approach, clinical features
- Pathogenesis and prognostic factors of gastric and large bowel tumors
- Surgical approach of gastrointestinal tumors
- Metastasectomies in cancer patients
- Gastrointestinal tumors: systemic treatments
- Gynecologic tumors: diagnostic and therapeutic approach

- Paraneoplastic syndromes
- Pathogenesis – histologic subtypes and prognostic factors of lung cancer
- Tumors of the chest: surgical staging and management
- Systemic treatment of chest tumors
- Principles of radiation therapy of genito-urinary tumors and of bone metastases
- Neurologic problems of cancer patients
- Holistic approach of the cancer patient

General Abilities

Identification, analysis and synthesis of data and information with the use of necessary technologies
Decision making
Autonomous work
Teamwork
Work in an international environment
Multidisciplinary work
Production of new research questions

441.506. COURSE CONTENT

- Oncogenesis
- Clinical features of the oncologic patient
- Symptom management of the cancer patient
- Diagnostic and therapeutic approach of patients with cancer
- Diagnosis and management of breast cancer
- Diagnosis and management of gastrointestinal cancer
- Diagnosis and management of chest tumors
- Gynecologic cancer
- Radiation therapy of cancer
- Paraneoplastic syndromes
- Emergencies in oncology
- Neurologic effects of cancer
- Psychiatric disturbances of oncologic patients
- Communication and counselling of cancer patients
- Holistic approach of the cancer patient

TEACHING METHOD	Teaching is performed through lectures in the auditorium	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support Learning through the e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	
	<i>Total number of hours for the Course</i>	
STUDENT ASSESSMENT	<p>Written final exam (100%) including:</p> <ul style="list-style-type: none"> • Multiple choice questions (50%) • Questions concerning the clinical features, diagnosis and management of oncologic patients 	

443.508. RECOMMENDED LITERATURE

NEUROLOGY

Hours

ECTS Units

Teachers

4th year, 7th semester (mandatory)

Teachings:-, Laboratory-, Tutorial-, Clinic 35 (per week)

4

E.Chroni, P.Polyxronopoulos, I.Elloul

Description

COURSE OUTLINE

444.509. GENERAL

SCHOOL	OF HEALTH SCIENCES		
DEPARTMENT	OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED721	SEMESTER OF STUDIES	7 th
COURSE TITLE	Neurology - Neurosurgery		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
lectures		30	4
COURSE TYPE	Field of science		
PREREQUISITE COURSES:	No		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)	-		

445.510. LEARNING OUTCOMES

<p>Leraning outcomes</p> <ul style="list-style-type: none"> •
<p>The course provides basic knowledge for the examination of the nervous system and the recognition</p>

of relevant diseases.

The aim of this course is to describe the clinical picture, investigations and therapeutic intervention of the main categories of neurological and neuromuscular diseases and syndromes. To achieve this goal, firstly, the common terms, the signs and symptoms are explained. Consequently, the basic laboratory investigations are discussed; these include CSF analysis, CT/MRI of brain and spinal cord, electroencephalography, electromyography, ultrasound and biopsy of muscle/nerve. Particular emphasis is given in differential diagnosis of common diseases and the description of certain typical pathognomonic features which could eventually lead through the diagnostic reasoning from the symptom to the disease. Finally, the core disorders, the most common and the treatable ones are emphasized.

Many examples are provided from real life help understand the concepts. Students are encouraged to actively participate in the lesson by posing questions.

In the context of the integration teaching, professors from departments and laboratories other than Neurology and Neurosurgery also intervene with short lectures that either recall knowledge of neuroanatomy, physiology, or provide specialized knowledge such as neuro-radiology in order to gain a holistic understanding of the subject.

Given the recent developments in the fields of neuroimmunology and genetics of neurological diseases, each year, the subject curriculum is enriched with new information on both novel categories of drugs (such as for multiple sclerosis) and gene treatment (such as for muscular dystrophies).

General Abilities

By the end of this course the student will be able to:

- Understand the basic neurological and neurosurgical terminology
- Develop the theoretical background of a typical neurological examination
- Have the basic knowledge for all main categories of nervous system diseases
- Describe the differences and similarities of diseases concerning a particular function such as motor or sensory
- Be aware of the main laboratory examinations relevant to the nervous system, when should be used, why and what is expected of them
- Adopt techniques of investigation and synthesis of data (information and clinical signs) in order to reach to a correct diagnosis for nervous system and muscle diseases
- Acquire the up-to-date knowledge necessary for the development of novel research ideas

446.511. COURSE CONTENT

1. Introduction, basic concepts, specific investigations
2. Neurological symptoms (N & N/S)
3. Neurological clinical examination

4. Headaches
5. Epilepsies
6. Dementia
7. Cerebrovascular diseases
8. Movement disorders
9. Demyelinating diseases of CNS
10. Head injury – impairment of consciousness – subarachnoid hemorrhage (aneurysms, gliomas) (N/S)
11. Intracranial tumors –intracranial hypertension (N/S)
12. Cerebellar ataxias
13. Spinal disease (N & N/S)
14. Cranial nerve syndromes
15. Peripheral neuropathies (diseases of neurons, nerves and roots)
16. Diseases of muscles and neuromuscular junction
17. Infections of CNS

18. Neurological complications of medical disorders

447.512. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Teaching in classroom	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures with the use of PowerPoint slides to highlight the important points. Presentations are available in e-class.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	30
	Hours for private study	70
	<i>Total hours for the course</i>	<i>100</i>

STUDENT ASSESSEMNT	<p>Final written 2-hour test, which consisted of 10 topics (questions) of equal value; 8 of them are obtained from the neurological chapters and 2 from the neurosurgical chapters. The answer to each topic is graded on a scale from 0 to 10 and the total minimum passing grade is ≥ 45 & and the minimum passing grade concerning the neurosurgical chapters ≥ 10 .</p> <p>Assessment language is Greek.</p> <p>On particular occasions (for example for medical reasons) the exam could be oral, provided that the faculty members agree.</p>
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448.513. RECOMMENDED LITERATURE

1. **NEUROLOGY** "Vasilopoulos"

Scientific Editor: Ioannis Evdokimidis, Konstantinos Potagas

ISBN: 978-9963-258-67-3

CODE. EYDOXOU: 50659046

Pages: 631

Publisher: P. PASHALIDIS

2. **NEUROLOGY AND NEUROSURGERY ILLUSTRATED** *FIFTH VERSION*

AUTHORS: Kenneth Lindsay-Ian Bone-Geraint Fuller

Scientific Editing: D. Konstantinou - Th. Birbilis

ISBN: 978-960-394-9336

KOD. EYΔOΞOY: 33155295

Pages: 589

Publisher: Parisianos S.A.

3. e-class lectures

PSYCHIATRY

Hours

ECTS Units

Teachers

4th year, 7th semester (mandatory)

Teaching:-, Laboratory-, Tutorial-, Clinic 27 (per week)

4

K.Asimakopoulos, F.Gourzis, A.Katrivanou and staff psychiatrists of the Department of Psychiatry

Description

COURSE OUTLINE

449.514. GENERAL

SCHOOL	OF HEALTH SCIENCES		
DEPARTMENT	OF MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_722	ΕΞΑΜΗΝΟ ΣΠΟΥΔΩΝ	7 th (lectures)
COURSE TITLE	Psychiatry		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	35	4
COURSE TYPE	Field of science		
PREREQUISITE COURSES:	No		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		

THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes in Greek
COURSE WEBPAGE (URL)	

450.515. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>The course provides knowledge and understanding of psychiatric principles considering common and mild psychiatric disorders, which are mainly addressed in primary health care, but also, the rarest and more serious mental disorders, which need hospitalization in psychiatric clinics. More specifically, the aim is the student to be familiarized with the diagnosis, pharmacotherapy and psychotherapy of neurocognitive disorders, disorders that are associated with the use of psychoactive substances, schizophrenia and related disorders, emotional disorders, anxiety and related disorders, psychosomatic disorders, personality and behavior disorders, syndromes associated with disorders of normal functions, as well as complications of mental disorders. The course is emphasized in the use of knowledge and understanding of the above issues in addressing common mental disorders at the primary level, as well as the acquisition of the necessary clinical skills and attitudes for the effective approach of patients with mental illness and their relatives/caregivers, as well as overcoming of the stigma of mental illness. Development of skills in order to acquire the necessary knowledge for further studies with a high degree of autonomy.</p>
General Abilities
<p>By the end of this course the student will be able to:</p> <ul style="list-style-type: none"> • Understand the basic psychiatric and psychotherapy terminology

- Obtain the full psychiatric examination in a theoretical level
- Be aware of the basic categories of psychiatric disorders
- Describe the differences and similarities of psychiatric disorders
- Be aware of the main components of the imaging and laboratory diagnostic workup of the psychiatric clinical care
- Develop techniques of investigation and synthesis of data (information and clinical signs) in order to reach to a correct diagnosis and therapeutic approach of psychiatric disorders
- Acquire the up-to-date knowledge necessary for the development of novel research ideas

451.516. ΠΕΡΙΕΧΟΜΕΝΟ ΜΑΘΗΜΑΤΟΣ

The curriculum of the course corresponding to the subjects as recorded in the text of the Agreement for the Interuniversity Harmonization of Psychiatric Education in our country, prepared by the Hellenic College of Academic Psychiatry, includes the following:

I. General part

1. Object of Psychiatry: General Consideration
2. Mental Functions and Disturbances
3. Psychiatric examination and patient's psychiatric history
4. Psychiatric diagnosis and modern taxonomic and diagnostic systems
5. Developmental stages and psychological defense mechanisms
6. Psychiatry and biological sciences
7. Psychiatry, Psychology, Sociology and other Humanities⁷.

II. Psychiatric Nursing

8. Organic psychiatric disorders
9. Substance use disorders
10. Schizophrenia and other psychotic disorders

11. Depression, dysthymia, bipolar disorder, cyclothymia
12. Anxiety disorders
13. Obsessive compulsive disorder
14. Stress-related and other related disorders
15. Mental disorders in somatic diseases and somatic-related disorders
16. Food intake disorders
17. Sleep disorders
18. Sexual dysfunctions and psychosexual disorders
19. Personality and impulse-control disorders
20. General psychopathology of childhood (mental health limits, anxiety, emotional, psychotic and other disorders)
21. Developmental disorders of childhood and mental retardation
22. Psychiatric disorders of adolescence

III. Psychiatric Therapeutics

21. Biological therapies
22. Psychotherapy
23. Psychosocial interventions

IV. Special Issues

24. Emergency Psychiatry
25. Liaison-Counseling Psychiatry
26. Psychogeriatrics
27. Intercultural Psychiatry
28. Social Psychiatry and Epidemiology of Mental Disorders
29. Public health and psychiatry, a system of mental health services (Psychiatry in primary health care, secondary and tertiary mental health care, psychiatric prevention)
30. Forensic psychiatry

- 31. Violence and self-destructive behavior
- 32. Psychological tests, imaging methods and laboratory tests in Psychiatry
- 33. Research Documentation in Psychiatry

452.517. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Teaching in classroom	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures with the use of PowerPoint slides to highlight the important points. Presentations are available in e-class.	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Lectures	30
	Hours for private study	70
	<i>Total hours for the course</i>	100

<p>ΑΞΙΟΛΟΓΗΣΗ ΦΟΙΤΗΤΩΝ</p>	<p>Final written 2-hour test, which consists of 4 short- answer questions of equal value (40% of the final grade) and 60, also of equal value, multiple choice questions (60% of the final grade).</p> <p>The answer to each topic is graded on a scale from 0 to 10 and the examination is considered successful when the total grade is ≥ 45.</p> <p>Assessment language is Greek.</p> <p>On particular occasions (for example for medical reasons) the exam could be oral, provided that the faculty members agree.</p>
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453.518. ΣΥΝΙΣΤΩΜΕΝΗ-ΒΙΒΛΙΟΓΡΑΦΙΑ

-recommended books :

1. TITLE: "Modern Psychiatry", AUTHORS: G. Papadimitriou, J. Liappas, L. Lykouras ISBN : 978-9604-521-623 EDITION: 2012 CODE ΕΥΔΟΞΟΥ: 22771928 PUBLISHER: BITA MEDICAL PUBLICATIONS M.E.P.E.
2. TITLE: "Textbook of Psychiatry", AUTHORS: K. Soldatos, L. Lykouras, ISBN : 978-9604-520-084 EDITION: 2006 CODE ΕΥΔΟΞΟΥ: 12950003 PUBLISHER: BITA MEDICAL PUBLICATIONS M.E.P.E

-recommended scientific journals:

General hospital psychiatry
Schizophrenia bulletin
American journal of psychiatry
Affective disorders
Alzheimer's and dementia
Psychosomatic medicine

**GYNECOLOGY -
OBSTETRICS**

Hours

ECTS Units

Teachers

4th year, 7th semester (mandatory)

Teachings:-, Laboratory-, Tutorials-, Clinic 25 (per week)

4

G.Antonakis, G.Dekavalas, A.Kaponis, N.Georgopoulos, G.Androutsopoulos, G.Michail

Description

454.519.

	SCHOOL OF HEALTH SCIENCES	
	MEDICINE	
	BACHELOR IN MEDICINE	
	MED_781	7 th
	OBSTETRICS AND GYNAECOLOGY	
	Lectures	20
		4
	Field of Science	
	Greek	
	No	

	<p>The aim of this module is to introduce medical students to the basic principles of Obstetrics and Gynaecology which are necessary for every medical doctor. Starting from the basic knowledge of Physiology, Embryology and Anatomy, topics that will be taught include normal pregnancy, the mechanism of normal delivery, menstrual cycle and menopause but also pregnancy complications, cycle irregularities and malignancies of the female reproductive tract. Students will also be exposed to specialized topics such as Fetal Medicine and Prenatal Diagnosis, Infertility and cervical screening and pathology. After the completion of this module, students will be able to recognize and treat obstetric and gynaecological emergencies. They will also familiarize with standard prenatal care, normal delivery and the puerperium and their complications. Finally, they will be able to describe the pathogenesis, treatment principles and differential diagnosis of common obstetric pathologies including pre-eclampsia, gestational diabetes as well as the indications for caesarean section and instrumental deliveries.</p>
	<p>Promoting free and creative thinking. Search, analyze and synthesize data and information, using the necessary technologies.</p>

455.520.

- Female reproductive system physiology
- Contraception, menopause
- Amenorrhoea, oligomenorrhoea
- Acute and chronic pelvic pain
- Pelvic mass
- Vaginal bleeding during the first and third trimester of pregnancy, ectopic pregnancy, miscarriage
- Urinary incontinence
- Uterine prolapse
- Abnormal uterine bleeding
- Female infertility
- Assisted conception techniques
- Normal pregnancy and embryology

- Prenatal care
- Lower genital tract disease
- Preterm premature rupture of membranes, preterm delivery
- Post-term pregnancy
- Fetal surveillance
- Post-partum pregnancy
- Maternal and neonatal morbidity and mortality
- Instrumental deliveries, caesarean section and the puerperium
- Fetal abnormalities
- Intrauterine growth restriction
- Pregnancy induced hypertension and pre-eclampsia
- Hydramnios, oligamnios

	Face to face lectures	
	Specialized on line platform, e-class	
	Lectures	40 hours
	Multiple choice questions – written exams	
	Class participation	

457.522.

1. *Obstetrics and Gynaecology, Antsaklis, Parisianos Editions, 2010 edition*
2. *Principles of Obstetrics and Gynaecology, Messinis, Parisianos Editions, ,2010 edition*
3. *Obstetrics and Gynaecology, Looytradis D, Deligeoroglou E, Papantoniou N, Paschalidis (Ed.), 2018*

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PEDIATRICS

Hours

ECTS Units

Teachers

4th year, 7th semester (mandatory)

Teachings:-, Laboratory-, Tutorials-, Clinic 25 (per week)

4

A.Varvarigou, V.Gkreka-Spilioti, M.Anthrakopoulos, A.Karatza, K.Sinopidis

Description

COURSE OUTLINE

458.523. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_771	SEMESTER OF STUDIES	7 th
COURSE TITLE	PAEDIATRICS (4 th YEAR – Integrated Teaching II)		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures	25	4	
COURSE TYPE	Field of Science and Skills Development		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case		

	foreign students attend the course.
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBPAGE (URL)	http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=64

459.524. LEARNING OUTCOMES

Lerning outcomes
<ul style="list-style-type: none"> • <p>The aim of the course is the theoretical training of medicine students in Paediatrics.</p> <p>In their fourth year of studies, medical students attend Paediatrics lectures for two (2) weeks per year in the context of Compiled Teaching II activities.</p> <p>Aim: Acquiring theoretical knowledge in General Paediatrics.</p> <p>By the end of this course the student is expected to develop the following abilities:</p> <ul style="list-style-type: none"> • To acquire critical knowledge on the most common pediatric disorders • To understand the pathophysiology of selected pediatric diseases • To compile and analyze the above information for obtaining differential diagnosis
General Abilities

By the end of this course the student will, furthermore, have develop the following general abilities:

- Searching, analysis and synthesis of facts and information
- Decision making
- Promotion of free, creative and inductive thinking

460.525. COURSE CONTENT

1. Infectious diseases

- Vaccines
- Fever (differential diagnosis, laboratory work-up, treatment), Bacteremia, Septicemia, Meningitis
- Infections (viral, bacterial, etc.)
- Upper Respiratory Tract infections
- Lower Respiratory Tract infections
- Gastroenteritis
- Tuberculosis
- Immunodeficiency

2. Neonatology

- Neonatal physical examination
- Neonatal resuscitation, perinatal asphyxia, birth injuries
- Respiratory distress syndrome
- Air leak syndrome
- Meconium aspiration syndrome and diaphragmatic hernia
- Early and late neonatal septicemia, congenital infections
- Pulmonary hypertension
- Neonatal jaundice, anemia
- Nutrition
- Metabolic disorders, convulsions

3. Endocrinology

- Physiological and pathological psychomotor development
- Chromosomal anomalies
- Physiological and pathological growth: Part A
- Physiological and pathological growth: Part B
- Calcium metabolism

- Diabetes mellitus type I and type II, Diabetic ketoacidosis
- Physiological and pathological puberty
- Normal and abnormal adrenal function
- Physiological and pathological function of thyroid and parathyroid glands
- Physiological and pathological function of the pituitary gland
- Metabolic disorders

4. Neurology

- Coma
- Febrile and non-febrile seizures
- Poisoning

5. Pulmonology and Allergic diseases

- Asthma
- Croup, Bronchiolitis
- Foreign body aspiration
- Cystic fibrosis

6. Cardiology

- Physical examination

- Cardiac insufficiency
- Congenital heart diseases
- 7. Gastroenterology
 - Acute abdominal pain
 - Congenital abnormalities
- 8. Urinary system
 - Pyouria, Haematuria, Albuminuria
 - Urinary tract infections
 - Congenital abnormalities
- 9. Hematology - Oncology
 - Small-cell anemias
 - Thalassemias, sickle cell anemia
 - Haemolytic anemias, Aplastic anemia
 - Thrombocytopenia, Leukemias, Lymphomas
- 10. Rheumatic Diseases
 - Arthralgia - Arthritis

461.526. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face (lectures)	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Communication Technologies in teaching (PowerPoint)	
TEACHING ORGANIZATION	Activity	Semester work-load
	Lectures (25 hours per week x 2 weeks)	50
	Total number of work-load hours	50 hours = 4 ECTS credits (12.5 hours of work-load per ECTS credit)
STUDENT ASSESMENT	Written final examination with multiple choice questions	

462.527. RECOMMENDED LITERATURE

Nelson Textbook of Pediatrics, 20th ed. Elsevier, 2016

TERMINAL PATIENT - 4th year, 7th semester (mandatory)
ONCOLOGY Teachings:-, Laboratory-, Tutorials-, Clinic 45 (per week)
Hours 4
ECTS Units
Teachers

COURSE OUTLINE

463.528. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_761	SEMESTER OF STUDIES	7 th (mandatory)
COURSE TITLE	Terminal patient - Oncology		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	21		
COURSE TYPE	Background, Scientific area		
PREREQUISITE COURSES:			
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)			

464. LEARNING OUTCOMES

Learning outcomes

-

Teaching is performed through lectures in the auditorium.

Students are taught all aspects of Oncology as well as principles of the management of the terminal patient with cancer. Special attention is given to certain topics and with the successful completion of the course, the student will be able to describe the following

- Principles of oncogenesis
- Diagnostic and therapeutic approach of cancer patients
- Clinical problems of cancer patients
 - Abdominal pain, cachexia, anemia, abdominal mass
 - Hemoptysis, hoarseness, chest pain, epilepsy
- Diagnostic approach of the patient with abdominal mass, management of jaundice, ERCP
- Management of ascites and electrolyte disturbances
- The role of tumor markers in the diagnosis of malignant diseases. Imaging methods in Nuclear Medicine
- Radiologic diagnosis of the oncologic patient

- Dyspnea – Hemoptysis in cancer patients: diagnostic approach – supportive measures
- Breast mass: diagnostic approach-staging-clinical features of breast cancer
- Pathogenesis of breast cancer – prognostic factors
- Principles of radiation therapy of breast cancer
- Principles of systemic therapy of breast cancer
- Tumors of the endocrine system
- Psychiatric disorders of cancer patients: prevention, diagnosis, management
- Communication and counselling of the cancer patient
- Emergencies in Oncology – Management of cancer pain
- Gastrointestinal tumors: diagnostic approach, clinical features
- Pathogenesis and prognostic factors of gastric and large bowel tumors
- Surgical approach of gastrointestinal tumors
- Metastasectomies in cancer patients
- Gastrointestinal tumors: systemic treatments
- Gynecologic tumors: diagnostic and therapeutic approach

- Paraneoplastic syndromes
- Pathogenesis – histologic subtypes and prognostic factors of lung cancer
- Tumors of the chest: surgical staging and management
- Systemic treatment of chest tumors
- Principles of radiation therapy of genito-urinary tumors and of bone metastases
- Neurologic problems of cancer patients
- Holistic approach of the cancer patient

General Abilities

Identification, analysis and synthesis of data and information with the use of necessary technologies

Decision making

Autonomous work

Teamwork

Work in an international environment

Multidisciplinary work

Production of new research questions

465. COURSE CONTENT

- Oncogenesis
- Clinical features of the oncologic patient
- Symptom management of the cancer patient
- Diagnostic and therapeutic approach of patients with cancer
- Diagnosis and management of breast cancer
- Diagnosis and management of gastrointestinal cancer

- Diagnosis and management of chest tumors
- Gynecologic cancer
- Radiation therapy of cancer
- Paraneoplastic syndromes
- Emergencies in oncology
- Neurologic effects of cancer
- Psychiatric disturbances of oncologic patients
- Communication and counselling of cancer patients
- Holistic approach of the cancer patient

466. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Teaching is performed through lectures in the auditorium	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Support Learning through the e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	

	Total number of hours for the Course	
STUDENT ASSESSMENT	Written final exam (100%) including: <ul style="list-style-type: none"> • Multiple choice questions (50%) • Questions concerning the clinical features, diagnosis and management of oncologic patients 	

467. RECOMMENDED LITERATURE

HEALTH PROMOTION/PREVENTIVE MEDICINE	4 th year, 7 th semester (mandatory)
Hours	Teachings:-, Laboratory-, Tutorials-, Clinic 20 (per week)
ECTS Units	2
Teachers	

COURSE OUTLINE

468. GENERAL

SCHOOL	HEALTH SCIENCE		
SEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_751	SEMESTER OF STUDIES	SEVENTH

COURSE TITLE	HEALTH PROMOTION/PREVENTIVE MEDICINE	
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures	25	2
COURSE TYPE	Field of Science	
PREREQUISITE COURSES:	Typically, there are not prerequisite courses	
TEACHING AND ASSESSMENT LANGUAGE:	Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBPAGE (URL)		

469. LEARNING OUTCOMES

Leraning outcomes

-

The course is the main introductory course in the concepts of Health Promotion, Disease Prevention and Community Medicine.

The subject matter of the course is to introduce students to the basic principles of preventive medicine, to make them understand the levels of prevention, i.e. primary and secondary levels. The value of systematic screening and of diagnostic tests are analyzed with emphasis on its implementation regarding Preventive Medicine. Methods to prevent heart disease and malignant neoplasms in the community are shown and discussed.

The methods of infectious diseases control in the Community and the methodology of epidemiological observation are shown and analyzed.

The subject matter of the course includes furthermore basic principles of Health Promotion, Organization and Evaluation of Health Promotion programs, focusing on Health Promotion in the community, at work and at school.

Finally, part of the subject matter of the course is the introduction in concepts of Public Health, Health Systems and Health Policies.

By the end of this course the student will be able to :

- understand the principles of Preventive Medicine
- gain knowledge about the levels of prevention

- gain knowledge about diagnostic tests and when they should be used in the context of screening
- gain knowledge of the methods of preventing heart disease, malignant neoplasms and other chronic diseases in the community
- use the techniques and methods of epidemiological observation
- organize Health Promotion programs in the community, at workplace, in schools and evaluate them
- understand the concept of Public Health, the way in which Health Systems are operated and organized, and the Health Policy Strategies

General Abilities

- Searching, analyzing and synthesizing facts and information, as well as using necessary technologies
- Decision making
- Autonomous working
- Group working

470. COURSE CONTENT

- i. Basic Principles of Preventive Medicine
- ii. Prevention levels
- iii. Primary and secondary prevention
- iv. Systematic screening
- v. Evaluation of diagnostic tests, implementation in Preventive Medicine
- vi. Prevention of heart disease, malignant neoplasia and other chronic diseases in the community
- vii. Control of infectious diseases in the community
- viii. Epidemiological Surveillance
- ix. Basic Principles of Health Promotion
- x. Health Promotion Programs
- xi. Promoting Health in the community, workplace, school
- xii. Public health
- xiii. Health Systems and Health Policies

471. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures, comprehension exercises	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	The learning process is supporting by the e-class platform	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	25
	Comprehension exercises, Hours for private	10

	study of the student	
	Final examination	3
	Total number of hours for the Course	38
STUDENT ASSESSMENT	<p>Written examination including:</p> <ul style="list-style-type: none"> • Multiple choice questions • Exercises <p>Minimum passing grade: 5</p>	

472. RECOMMENDED LITERATURE

1. M. Arvanitidou Vagiona. Social and Preventive Medicine. University Press, Thessaloniki 2009.
2. D. Trichopoulos, V. Kalapothaki, E. Petridou. Preventive Medicine & Public Health. ZETA Pub., Athens 2000
3. Notes of lecturers. A. Vandarakis, E. Gerastopoulou, M. Leotsinidis

SURGERY-

4th year, 7th semester (mandatory)

TRAUMA (ATLS)

Hours Teachings:-, Laboratory-, Tutorials-, Clinic 25 (per week)
ECTS Units
Teachers 4

Description**COURSE OUTLINE****473.529. GENERAL**

SCHOOL	MEDICINE		
SEPARTMENT	SURGERY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED-741	SEMESTER OF STUDIES	SEVENTH
COURSE TITLE	SURGERY-TRAUMA		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures and practical work		25	4
COURSE TYPE	Field of science		
PREREQUISITE COURSES:			

TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	
COURSE WEBPAGE (URL)	

474.530. LEARNING OUTCOMES

Leraning outcomes
<ul style="list-style-type: none"> •
<p>EDUCATIONAL GOALS ON TRAUMA- EVALUATION OF MULTIPLE INJURIES</p> <p>Severe trauma is the leading cause of death among people aged 1-44, while it is the third in line cause of death in all ages after cardiovascular diseases and cancer. It has been estimated that every death due to trauma corresponds to three permanently disabled individuals, whilst a significant percentage of these deaths and disabilities could have been avoided by early intervention. Because trauma adversely affects a young population, it results in the loss of more working years therefore social and economic cost is astounding. Knowledge and application of resuscitation and the handling of a multiple injury diminishes complications and decreases mortality rate and disabilities.</p>
<p>EDUCATIONAL GOALS REGARDING THORACIC TRAUMA</p> <p>Thoracic trauma accounts directly for 25% of deaths due to injury, but it is also a contribution factor in other causes of death. The majority of these deaths occur after the patient's arrival in the ER, many of which could have been avoided by immediate diagnosis and treatment. Treatment of a thoracic injury is generally a straight forward procedure if the correct diagnosis has been made. Meanwhile a thoracic trauma that has not been diagnosed or handled in the right way can lead to a quick death. Typically less than 10% of blunt trauma and about 15-30% of penetrating thoracic injuries require surgical treatment (thoracotomy). Most patient with a thoracic trauma are in need of simple interventions (ie tube thoracostomy), that are in the acquired abilities of any medical doctor. In total the mortality rate due to a thoracic trauma is less than 10%</p>

EDUCATIONAL GOALS REGARDING ABDOMINAL INJURIES

Based on the injury mechanism, abdominal trauma is distinguished between a blunt trauma, which is caused by direct percussion, steep deceleration or shear forces and penetrating trauma, more often caused by a knife or a bullet.

The evaluation of the abdomen is of great significance to the first diagnosis, while a blunt injury meets more complications when diagnosing than a penetrating one. The goal is to evaluate if there is an abdominal cavity injury, that needs surgical treatment and not which organ may be injured specifically.

An undiagnosed abdominal injury, comprises a significant cause of death, following trauma.

EDUCATIONAL GOALS REGARDING HEAD INJURIES

Head injury, is the fourth most common cause of death and at the same time the leading one during the first four decades of life. The leading causes of head injuries are car accidents, falls and criminal actions, while fewer are caused by work accidents, sports, hobbies and other recreational activities. Head injuries, depending their severity, may be life threatening, moreover they can get worse due to other injuries. Early head injury evaluation which requires knowledge on the pathophysiology of the trauma and right treatment can greatly improve a patient's condition.

EDUCATIONAL GOALS REGARDING INJURIES OF THE SPINAL CORD

Trauma of the spine is very common nowadays and can lead to severe permanent disabilities. For every individual that an injury has occurred anywhere above the clavicles or one with multiple injuries, it must be taken into consideration that the probability of a spinal injury is high, therefore the patient must be handled with great care even if symptoms are absent. Around 55% of spinal trauma is a cervical spinal cord injury, 15% thoracic, 15% thoracic-lumbar, 15% in the sacral vertebrates. 5% of head injuries are accompanied by a spinal injury while 25% of spinal injuries come with a head injury.

EDUCATIONAL GOALS REGARDING MUSCULOSKELETAL TRAUMA

Musculoskeletal trauma despite occurring in 85% of patients who have suffered a blunt trauma, is rarely life threatening or threatens the livability of a body part, if evaluation and treatment has been made promptly. For this reason, patients having a single musculoskeletal trauma must be cared for in the same way as a patient with a multisystemic trauma.

EDUCATIONAL GOALS REGARDING BURNS AND COLD INJURIES

Burns are frequent injuries, that are often caused by exposure to high temperature (thermal burns) or rarely to chemical substances (chemical burns) or after body connection to an electrical source of high voltage (electrical burns). On the opposite, cold injuries are less frequent in our country, because of the climate. They are distinguished in local burns (frostbite) and systemic (hypothermia). On 85% of incidents, burns are simple (low severity) and can be treated in an outpatient clinic. Extensive burns and hypothermia are a significant cause of morbidity and mortality. Knowledge and practice of the principals of resuscitation and the final treatment of these injuries minimizes complications and mortality.

General Abilities

Search, analysis and synthesis of data with the use of appropriate technologies

475.531. COURSE CONTENT

<u>Trauma epidemiology</u> <u>Laws of energy on trauma</u> <u>Airway and respiration</u> <u>Shock</u> <u>Thoracic trauma</u> <u>Head injuries</u> <u>Spinal cord and vertebrate injuries</u> <u>Hot and cold burn injuries</u> <u>Musculoskeletal trauma</u> <u>Fractures in childhood</u> <u>Post-traumatic distending osteogenesis</u> <u>Long bone fractures</u> <u>Hip fractures</u> <u>Open fractures</u> <u>Fractures of the lower radius</u> <u>Upper arm brace fractures</u> <u>Patient transportation</u> <u>Practical application</u>
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476.532. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face, e-class.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of I.C.T (eg Powerpoint) in lectures. The lectures are uploaded on the Internet (e-class).	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	60

	practical work	40
	<i>Total number of hours for the Course</i>	<i>100</i>
STUDENT ASSESSMENT	<p>Written assessment Multiple choice exams</p> <p>Minimum passing grade: 5</p>	

477.533. RECOMMENDED LITERATURE

478.534. ATLS: Advanced Trauma Life: Support for Doctors

Litera - John Boukouvalas 2010 ISBN: 9789605444716

Bioethics

Hours

ECTS Units

Teachers

COURSE OUTLINE

479.535. GENERAL

SCHOOL	Health science		
SEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_521	SEMESTER OF STUDIES	5 th
COURSE TITLE	Bioethics		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
lectures	1	3	
Laboratory	2		
COURSE TYPE	Field of Science		
PREREQUISITE COURSES:	No		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes (in Greek language)		

480.536. LEARNING OUTCOMES**Learning outcomes**

-

The course of Bioethics includes a general and a specific section. In the general section the concepts and principles of bioethics are described and the context of bioethical considerations is analyzed as part of legal, ethical, philosophical and biomedical components. Also the historical development of ethical consideration in comparison with contemporary bioethics problematic is considered.

General Abilities

By the end of this course the student will be able to:

- Understand the basic bioethics terminology
- Be aware of the principles of bioethics
- Acquire the up-to-date knowledge necessary for the development of novel research ideas

481.537. COURSE CONTENT

In the specific section the application of the principles of bioethics is analyzed and topics as follows:

- Assisted reproduction
 - o In vitro fertilization and other reproductive technologies.
 - o Banks for storage and use of gametes and embryos.
 - o Pre-implantation genetic diagnosis. Sex selection. Surrogate motherhood.
- Check on fertility and reproduction
 - o Contraception, sterilization, abortion. The rights of fetus.
- The management of the dead body and organ donation
 - o Autopsy, consent and postmortem examination.
 - o Posthumous DNA Testing.
 - o Consent for donation of organs and tissues for education and research.
 - o Brain death, organ donation and transplantation.
- Provision of medical devices and pharmaceutical therapy
 - o Medicalization, lifestyle drugs.
 - o Conflict of interest and medical treatment.
 - o Overlapping (shared) prescribing.
 - o Distant prescribing.
 - o New costly drugs, treatment costs, pharmacogenetics.
- Bioethical problems in Intensive Care Units
 - o Euthanasia and physician-assisted suicide.
 - o The problem of medical prosthesis as for near-death medical decisions.
 - o Withdrawal versus retention of the treatment, treatment refusal.
- Care of the terminally ill patients
 - o Quality of life. Philosophy and principles of palliative care.
 - o The role of the will of the patient.
 - o Patients competent for decisions.
 - o Adults incompetent for decisions / children.

- Medical records
 - o Registration, transfer, storage and access to medical data. Patient consent.
 - o Confidentiality and responsibility.
- Doctor –patient relationship
 - o Patient –physician contact.
 - o The therapeutic importance of the relationship between the patient and the physician and the medical team.
 - o Balancing patient autonomy with that of the physician.
 - o Doctor selection.
 - o Informing the patients and relatives for unfavorable diagnosis.
- Bioethics of medical research
 - o Special research fields. Research in fetal tissues or materials (embryos, embryonic stem cells).
 - o Research in autopsy material.
 - o Clinical trials, confidentiality and archive-based research, publishing results.
- Emergency care
 - o The question of saving a patient that attempts to suicide.
 - o Stated refusal for treatment by the patient in emergency medicine.
- Genetic engineering
 - o Specificity of bioethical questions arising from the application of genetic (familial character, ability of irreversible modification of genetic makeup). Predisposition testing.
 - o Problems of implementation of Genetic Engineering in diagnosis and treatment. Predictive testing.
 - o Pre-symptomatic testing.
 - o Controversial uses of genetic information:
 - ☒ Genetics and Insurance
 - ☒ Genetics and Professional Experience
 - ☒ Paternity testing
 - o Gene therapy in somatic and germline cells – Cloning.

482.538. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Teaching in classroom	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Lectures with the use of PowerPoint slides to highlight the important points. Presentations are available in e-class.	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	14
	Laboratory	28
	Total number of hours for the Course	42
STUDENT ASSESSMENT	Students are assessed by written exams, after arrangement with Academics (one question by each tutor).	

483.539. RECOMMENDED LITERATURE

<ul style="list-style-type: none"> - “Clinical ethics, a practical approach to ethical decisions in clinical medicine”, A.R. Jonsen, M. Siegler, W.J. Winslade, Medical Publishing Division, 6th Edition, 2006. - Medical ethics today, the BMA’s handbook of ethics and law, 2nd edition, British Medical Association Ethics Department, 2004. - Notew of Bioethics, University of Patras, Department of Medicine.
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FOREINGN LANGUAGES

COURSE OUTLINE

484.540. GENERAL

SCHOOL	School of Health Sciences		
SEPARTMENT	Faculty of Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_171	SEMESTER OF STUDIES	1 st
COURSE TITLE	English I		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	2	0	
COURSE TYPE	Foreign language course		
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of English is recommended towards students' successful completion of the course (B1/B2 level). Attendance and participation are highly encouraged even for students whose language competence is of proficient level.		
TEACHING AND ASSESSMENT LANGUAGE:	English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		

COURSE WEBPAGE (URL)

<https://eclass.upatras.gr/courses/MED846/>

485.541. LEARNING OUTCOMES**Leraning outcomes**

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By the end of this course the student will have:

- a) Improved their English reading skills, making feasible the studying of various text types related to their discipline, including textbook extracts, popularized articles and scientific articles.
- b) Developed a number of language and cognitive skills (most of which are transferable) necessary for participating in the academic discourse community,
- c) Further developed their language skills using the technology available in addition to classroom training. In other words they are prepared for autonomous learning.

General Abilities

Skills acquisition refers to:

- Cultivation of skills in the use of English medical terminology
- Developing production skills and understanding of written and spoken language
- Proper pronunciation and expression
- Acquiring academic writing skills
- Working in an international environment
- Working in an interdisciplinary environment

486.542. COURSE CONTENT

Grammatical structures found in medical texts including:

- Tenses
- Active and Passive Voice
- Relative clauses
- Articles
- Prepositions
- Indirect speech
- Secondary clauses

Medical text analysis
 Medical terminology

487.543. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Lectures. Exercises in all four language skills: reading, writing, listening and speaking.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of powerpoint and other audiovisual materials.	
TEACHING ORGANIZATION	Lectures and exercises in all four language skills: reading, writing, listening and speaking.	2 hours a week for 13 weeks. Total of 26 hours per semester

STUDENT ASSESMENT	Written final exam in English including grammatical, writing and vocabulary exercises.	

488.544. RECOMMENDED LITERATURE

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COURSE OUTLINE

489.545. GENERAL

SCHOOL	School of Health Sciences		
SEPARTMENT	Faculty of Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_271	SEMESTER OF STUDIES	2nd
COURSE TITLE	English II		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
		2	0
COURSE TYPE		Foreign language course	
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of English is recommended towards students' successful completion of		

	the course (B1/B2 level). Attendance and participation are highly encouraged even for students whose language competence is of proficient level.
TEACHING AND ASSESSMENT LANGUAGE:	English
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED855/

490.546. LEARNING OUTCOMES

Lerning outcomes
<p>By the end of this course the student will have:</p> <ul style="list-style-type: none"> • Improved their understanding of medical terminology especially the language used in anatomy and physiology. • Acquired an advanced level of knowledge and the unobstructed use of English for Specific Purposes in terms of the four basic skills: reading, writing, listening and speaking. • Learned how to comprehend and analyze authentic material (texts referring to their subject matter) with teaching focused solely on the development of language skills for special purposes.
General Abilities

Skills acquisition refers to:

- Cultivation of skills in the use of English medical terminology
- Developing production skills and understanding of written and spoken language
- Proper pronunciation and expression
- Acquiring academic writing skills
- Working in an international environment
- Working in an interdisciplinary environment

491.547. COURSE CONTENT

This course focuses on the introduction of medical terminology using a medical word parts approach as well as in the description of organs and other structures of the human body.

Introduction to medical terminology

- Medical word parts (prefixes/suffixes/roots)
- Term formation
- Spelling words derived from Greek and Latin
- Greek and Latin plurals
- Pronunciation rules

Introduction to basic anatomical terms. Describing structure and function of anatomical parts.

- Anatomical terms
- Layman's and medical terms
- Greek and Latin noun suffixes
- Adjectival and diminutive suffixes
- Range of motion
- Practice with verbs
- Describing structure and functions of systems and organs
- Word parts concerned with color

Describing shapes and properties of various organs and structures in the human body.

- Shapes and properties

Describing location of various organs and structures in the human body

- Anatomical terms

- Locative prefixes
 - Locative prepositions
- Medical text analysis

492.548. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures and classroom exercises/activities.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of powerpoint and other audiovisual materials. https://eclass.upatras.gr/courses/MED855/	
TEACHING ORGANIZATION	Δραστηριότητα	Φόρτος Εργασίας Εξαμήνου
	Language and lexical exercises	2 hours per week for 13 weeks. Total of 26 hours per semester
STUDENT ASSESSEMENT	Written final examination	

493.549. RECOMMENDED LITERATURE

COURSE OUTLINE

494.550. GENERAL

SCHOOL	School of Health Sciences		
SEPARTMENT	Faculty of Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_371	SEMESTER OF STUDIES	3 rd
COURSE TITLE	English III		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	2	0	
COURSE TYPE	Foreign language course		
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of English is recommended towards students' successful completion of the course (B1/B2 level). Attendance and participation are highly encouraged even for students whose language competence is of proficient level.		
TEACHING AND ASSESSMENT LANGUAGE:	English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED877/		

495.551. LEARNING OUTCOMES

Leraning outcomes

-

By the end of this course the student will have:

- Improved their understanding of medical terminology especially the language used in describing symptoms, diseases, treatments of disease, immunity, case histories, the physical examination.
- Acquired an advanced level of knowledge and the unobstructed use of English for Specific Purposes in terms of the four basic skills: reading, writing, listening and speaking.
- Learned how to comprehend and analyze authentic material (texts referring to their subject matter) with teaching focused solely on the development of language skills for special purposes.

General Abilities

Skills acquisition refers to:

- Cultivation of skills in the use of English medical terminology
- Developing production skills and understanding of written and spoken language
- Proper pronunciation and expression
- Acquiring academic writing skills
- Working in an international environment
- Working in an interdisciplinary environment

496.552. COURSE CONTENT

Study and analysis of medical texts on topics including:

- Symptoms of disease
- Pain
- Diseases
- Treatment of disease
- Immunity

- Case histories
- The physical examination
- Diagnostic and symptomatic suffixes

497.553. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Lectures and classroom exercises/activities.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of powerpoint and other audiovisual materials. https://eclass.upatras.gr/courses/MED877/	
TEACHING ORGANIZATION	<i>Δραστηριότητα</i>	<i>Φόρτος Εργασίας Εξαμήνου</i>
	Language and lexical exercises	2 hours per week for 13 weeks. Total of 26 hours per semester
STUDENT ASSESSEMENT	Written final examination	

498.554. RECOMMENDED LITERATURE

COURSE OUTLINE

499.555. GENERAL

SCHOOL	School of Health Sciences		
SEPARTMENT	Faculty of Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_471	SEMESTER OF STUDIES	4 th
COURSE TITLE	English IV		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
	2	0	
COURSE TYPE	Foreign language course		
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of English is recommended towards students' successful completion of the course (B1/B2 level). Attendance and participation are highly encouraged even for students whose language competence is of proficient level.		
TEACHING AND ASSESSMENT LANGUAGE:	English		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/MED905/		

500.556. LEARNING OUTCOMES

Lerning outcomes

-

By the end of this course the student will have:

- Improved their understanding of medical terminology especially the language used in subjects like surgery, cancer, diagnostic and imaging techniques, first aid, forms of drugs and how they act, pharmacology, and medical specialties.
- Acquired an advanced level of knowledge and the unobstructed use of English for Specific Purposes in terms of the four basic skills: reading, writing, listening and speaking.
- Learned how to comprehend and analyze authentic material (texts referring to their subject matter) with teaching focused solely on the development of language skills for special purposes.

General Abilities

Skills acquisition refers to:

- Cultivation of skills in the use of English medical terminology
- Developing production skills and understanding of written and spoken language
- Proper pronunciation and expression
- Acquiring academic writing skills
- Working in an international environment
- Working in an interdisciplinary environment

501.557. COURSE CONTENT

Study and analysis of medical texts on topics including:

- Surgery
 - surgical language and terminology
 - practical use of surgical suffixes

- Cancer
- Diagnostic and Imaging Procedures
 - terms and abbreviations related to basic examination positions, laboratory tests, diagnostic and imaging procedures
 - suffixes used in diagnostic testing
- First Aid
 - compound phrases often found in medical texts
- Forms of Drugs And How They Act
 - categorization of drug forms
 - routes of drug administration
- Introduction to Pharmacology
- Physicians and Medical Specialties

502.558. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures and classroom exercises/activities.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of powerpoint and other audiovisual materials. https://eclass.upatras.gr/courses/MED905/	
TEACHING ORGANIZATION		
	Language and lexical exercises	2 hours per week for 13 weeks. Total of 26

		hours per semester
STUDENT ASSESMENT	Written final examination	

503.559. RECOMMENDED LITERATURE

COURSE OUTLINE

504.560. GENERAL

SCHOOL	Health Sciences		
ACADEMIC UNIT	Medicine		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_175	SEMESTER	1 (Spring)
COURSE TITLE	505. Russian I		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
The course is being taught as a laboratory class. The analysis of the language structure and function is materialized via the	3	3	

experiential learning and the active participation of the students.		
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language	
PREREQUISITE COURSES:	No	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Russian	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)	-	

506.561. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<ul style="list-style-type: none"> • Coverage of basic phonetic and grammatical structures – A' semester <p>In the A' semester (Russian I) the courses include:</p> <ul style="list-style-type: none"> - Phonetics – learning of the Russian alphabet – Rules of pronunciation and

intonation -Basic principles of grammar (Nouns –noun genders – singular/plural – personal and possessive pronouns – adjectives – verbs (conjugations and tenses)

- Basic principles of syntax
- Short texts – dialogues
- Oral presentations

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

.....

Others...

.....

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

507.562. SYLLABUS

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

508.563. TEACHING and LEARNING METHODS - EVALUATION

<p align="center">DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face (in class)																							
<p align="center">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>																								
<p align="center">TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<table border="1"> <thead> <tr> <th align="center"><i>Activity</i></th> <th align="center"><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td align="center">19</td> </tr> <tr> <td>Laboratory practice</td> <td align="center">20</td> </tr> <tr> <td>Study and analysis of bibliography</td> <td></td> </tr> <tr> <td>Project</td> <td></td> </tr> <tr> <td>Essay writing</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Course total</td> <td align="center">3x13=39</td> </tr> </tbody> </table>		<i>Activity</i>	<i>Semester workload</i>	Lectures	19	Laboratory practice	20	Study and analysis of bibliography		Project		Essay writing										Course total	3x13=39
<i>Activity</i>	<i>Semester workload</i>																							
Lectures	19																							
Laboratory practice	20																							
Study and analysis of bibliography																								
Project																								
Essay writing																								
Course total	3x13=39																							
<p align="center">STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Assessment language is Russian.</p> <p>The evaluation is based on: Final Exam (50%) Written project (10%) Attendance (40%)</p>																							

509.564. ATTACHED BIBLIOGRAPHY

<ol style="list-style-type: none"> 1. РУССКИЙ ЯЗЫК ДЛЯ ВСЕХ.Под редакцией В.Г.Костомарова 2. РУССКИЙ ЯЗЫК. ПРАКТИЧЕСКИЙ КУРС. Л.С.Журавлёва 3. ПОЕХАЛИ.Ст.Чернышов 4. ΓΡΑΜΜΑΤΙΚΑ ΣΧΟΛΙΑ.ΣΗΜΕΙΟΥΣΕΙΣ Π.ΙΩΑΝΝΙΔΟΥ 5. РУССКО-ГРЕЧЕСКИЙ СЛОВАРЬ. MANDESON
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COURSE OUTLINE

510.565. GENERAL

SCHOOL	Health Sciences		
ACADEMIC UNIT	Medicine		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_275	SEMESTER	2 (Spring)
COURSE TITLE	511. Russian II		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	

The course is being taught as a laboratory class. The analysis of the language structure and function is materialized via the experiential learning and the active participation of the students.	3	3
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language	
PREREQUISITE COURSES:	The students who choose RUSSIAN II must have attended RUSSIAN I.	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Russian	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)	-	

512.566. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> <i>Guidelines for writing Learning Outcomes</i>
<ul style="list-style-type: none"> Coverage of basic phonetic and grammatical structures – A' semester

- Coverage of grammatical and syntactic structures – B' semester

In the A' and B' semester (**Russian I and II**) the courses include:

- Phonetics – learning of the Russian alphabet – Rules of pronunciation and intonation
- Basic principles of grammar (Nouns –noun genders – singular/plural – personal and possessive pronouns – adjectives – verbs (conjugations and tenses)
- Basic principles of syntax
- Short texts – dialogues
- Oral presentations

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

.....

Others...

.....

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

513.567. SYLLABUS

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

514.568. TEACHING and LEARNING METHODS - EVALUATION

<p>DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face (in class)																							
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>																								
<p>TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<table border="1"> <thead> <tr> <th><i>Activity</i></th> <th><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>19</td> </tr> <tr> <td>Laboratory practice</td> <td>20</td> </tr> <tr> <td>Study and analysis of bibliography</td> <td></td> </tr> <tr> <td>Project</td> <td></td> </tr> <tr> <td>Essay writing</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Course total</td> <td>3x13=39</td> </tr> </tbody> </table>		<i>Activity</i>	<i>Semester workload</i>	Lectures	19	Laboratory practice	20	Study and analysis of bibliography		Project		Essay writing										Course total	3x13=39
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<i>given, and if and where they are accessible to students.</i>	

515.569. ATTACHED BIBLIOGRAPHY

6. РУССКИЙ ЯЗЫК ДЛЯ ВСЕХ.Под редакцией В.Г.Костомарова
7. РУССКИЙ ЯЗЫК. ПРАКТИЧЕСКИЙ КУРС. Л.С.Журавлёва
8. ПОЕХАЛИ.Ст.Чернышов
9. ΓΡΑΜΜΑΤΙΚΑ ΣΧΟΛΙΑ.ΣΗΜΕΙΩΣΕΙΣ Π.ΙΩΑΝΝΙΔΟΥ

COURSE OUTLINE

516.570. GENERAL

SCHOOL	Health Sciences		
ACADEMIC UNIT	Medicine		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_375	SEMESTER	3
COURSE TITLE	Russian III		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING	CREDITS	
<i>if credits are awarded for separate components of the course, e.g.</i>			

<i>lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	HOURS	
The course is being taught as a laboratory class. The analysis of the language structure and function is materialized via the experiential learning and the active participation of the students.	3	2
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language	
PREREQUISITE COURSES:	The students who choose RUSSIAN III must have attended RUSSIAN I and RUSSIAN II.	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Russian	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)		

517.571. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> <i>Guidelines for writing Learning Outcomes</i>

In Russian III the course includes:

- Nouns and adjectives in prepositional case
- Past tense of verbs
- Adverbs of time
- Basic vocabulary
- Development of language communication skills along with exercising grammatical and syntactic strictures.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and

information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and

sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

.....

Others...

.....

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

Correct pronunciation and intonation.

518.572. SYLLABUS

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

519.573. TEACHING and LEARNING METHODS - EVALUATION

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

520.574. RECOMMENDED BIBLIOGRAPHY

1. РУССКИЙ ЯЗЫК ДЛЯ ВСЕХ. Под редакцией В.Г. Костомарова
2. РУССКИЙ ЯЗЫК. ПРАКТИЧЕСКИЙ КУРС. Л.С. Журавлёва
3. ПОЕХАЛИ. Ст. Чернышов
4. ΓΡΑΜΜΑΤΙΚΑ ΣΧΟΛΙΑ. ΣΗΜΕΙΩΣΕΙΣ Π. ΙΩΑΝΝΙΔΟΥ

COURSE OUTLINE

521.575. GENERAL

SCHOOL	Health Sciences		
ACADEMIC UNIT	Medicine		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_475	SEMESTER	4
COURSE TITLE	Russian IV		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	

The course is being taught as a laboratory class. The analysis of the language structure and function is materialized via the experiential learning and the active participation of the students.	3	2
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language	
PREREQUISITE COURSES:	The students who choose RUSSIAN IV must have attended RUSSIAN I, RUSSIAN II and RUSSIAN III.	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Russian	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)		

522.576. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> <i>Guidelines for writing Learning Outcomes</i>
In Russian IV the course includes:

- Affirmative and negative form, compound sentence with relative pronoun, irregular verbs, demonstrative pronouns, perfect and imperfect state verbs
- Basic vocabulary
- Development of language communication skills along with exercising grammatical and syntactic strictures.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

.....

Others...

.....

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

Correct pronunciation and intonation.

523.577. SYLLABUS

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

524.578. TEACHING and LEARNING METHODS - EVALUATION

<p>DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	<p>Face-to-face (in class)</p>																							
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>																								
<p>TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<table border="1"> <thead> <tr> <th>Activity</th> <th>Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>19</td> </tr> <tr> <td>Laboratory practice, listening and speaking skills, communication and writing skills.</td> <td>20</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Course total</td> <td>3x13=39</td> </tr> </tbody> </table>		Activity	Semester workload	Lectures	19	Laboratory practice, listening and speaking skills, communication and writing skills.	20															Course total	3x13=39
Activity	Semester workload																							
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Course total	3x13=39																							
<p>STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical</i></p>	<p>Assessment language is Russian.</p> <p>The evaluation is based on: Final Exam (50%) Written project (10%) Attendance (40%)</p>																							

<p><i>examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	
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525.579. RECOMMENDED BIBLIOGRAPHY

5. РУССКИЙ ЯЗЫК ДЛЯ ВСЕХ.Под редакцией В.Г.Костомарова
6. РУССКИЙ ЯЗЫК. ПРАКТИЧЕСКИЙ КУРС. Л.С.Журавлёва
7. ПОЕХАЛИ.Ст.Чернышов
8. ΓΡΑΜΜΑΤΙΚΑ ΣΧΟΛΙΑ.ΣΗΜΕΙΩΣΕΙΣ Π.ΙΩΑΝΝΙΔΟΥ

COURSE OUTLINE

526.580. GENERAL

SCHOOL	School of Health?of Health Sciences		
ACADEMIC UNIT	Department of MEDICINEMedicine		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_174	SEMESTER	1
COURSE TITLE	German I		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
Lectures and language practice exercises (laboratory practice)	2	-	

<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General German language teaching for various levels (depending on students' needs analysis), German for Specific Purposes, Academic Skills Development	
PREREQUISITE COURSES:	Students are required to be independent users –upper intermediate level B1	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	German	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)	-	

527.581. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The course initially aims at developing students' written and oral communication skills to be able to respond to everyday life situations. Moreover, students are gradually getting familiarized with German terminology and bibliography, depending on their field of study. Students develop their academic reading and writing skills by learning how to consult and use proper academic sources.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Team work</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	<i>.....</i>
<i>Production of new research ideas</i>	<i>Others...</i>
	<i>.....</i>

Improve all four languages skills-reading ,listening, speaking, writing to a satisfactory level (B1+-B2)

Apply strategies for reading and comprehending relevant German bibliography

528.582. SYLLABUS

- Grammar and syntactical phenomena (Tenses, use of Infinitive, clauses of purpose, declination of adjectives, nominalization)
- Written and oral speech production
- Written and oral speech comprehension
- Proper articulation and correct pronunciation

529.583.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face(class)	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	-	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	Να συμπληρωθεί (ΥΠΟΔΕΙΓΜΑ ΟΠΩΣ ΕΣΔΕ)	
	ctivity	Semester orkload
	Lectures	16
	Laboratory and language practice	20
	Study and analysis of bibliography	-
	Project writing	-
	Essay writing	-
	Course total	36
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i> <i>Specifically-defined evaluation criteria are</i>	Να συμπληρωθεί ΥΠΟΔΕΙΓΜΑ The language of evaluation is German. The evaluation includes: <ul style="list-style-type: none"> • Final exam (90%) • Attendance and participation (10%) 	

<p><i>given, and if and where they are accessible to students.</i></p>	<p>T</p>
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530.584. ATTACHED BIBLIOGRAPHY

- Begegnungen B1+ Schubert Verlag (main coursebook)
- German Grammar and Syntax - Praxis Verlag (grammar book)
- Pons Wörterbuch Deutsch Griechisch-Griechisch Deutsch Klett Verlag (on line dictionary)

COURSE OUTLINE

531.585. GENERAL

SCHOOL	School of Medicine of Health Sciences		
ACADEMIC UNIT	Medicine		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_274	SEMESTER	2
COURSE TITLE	German II		

INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS
Lectures and language practice exercises (laboratory practice)	2	-
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General German language teaching for various levels (depending on students' needs analysis), German for Specific Purposes, Academic Skills Development	
PREREQUISITE COURSES:	Students are required to be independent users –upper intermediate level B1	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	German	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)	-	

532.586. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>

The course initially aims at developing students' written and oral communication skills to be able to respond to everyday life situations. Moreover, students are gradually getting familiarized with German terminology and bibliography, depending on their field of study. Students develop their academic reading and writing skills by learning how to consult and use proper academic sources.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Team work</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	<i>.....</i>
<i>Production of new research ideas</i>	<i>Others...</i>
	<i>.....</i>

Improve all four languages skills-reading ,listening, speaking, writing to a satisfactory level (B1+-B2)

Apply strategies for reading and comprehending relevant German bibliography

533.587. SYLLABUS

- Grammar and syntactical phenomena (Conjunctive II, Passive Voice, Subordinate Sentences, Preposition, Modal verbs
- Written and oral speech production
- Written and oral speech comprehension
- Proper articulation and correct pronunciation

534.588.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face (class)	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	-	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	Να συμπληρωθεί (ΥΠΟΔΕΙΓΜΑ ΟΠΩΣ ΕΣΔΕ)	
	Activity	Semester workload
	Lectures	16
	Laboratory and language practice	20
	Study and analysis of bibliography	-
	Project writing	-
	Essay writing	-
Course total	36	
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i> <i>Specifically-defined evaluation criteria are</i>	<p>The language of evaluation is German.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> • Final exam (90%) • Attendance and participation (10%) <p>T</p>	

<p><i>given, and if and where they are accessible to students.</i></p>	
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535.589. ATTACHED BIBLIOGRAPHY

- | |
|--|
| <ul style="list-style-type: none"> • Begegnungen B1+ Schubert Verlag (main coursebook) • German Grammar and Syntax - Praxis Verlag (grammar book) • Pons Wörterbuch Deutsch Griechisch-Griechisch Deutsch Klett Verlag (on line dictionary) |
|--|

COURSE OUTLINE

536.590. GENERAL

SCHOOL	Of Health Sciences School Medicine		
ACADEMIC UNIT	Medicine		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_374	SEMESTER	3 Winter
COURSE TITLE	German III		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the</i>	WEEKLY TEACHING HOURS	CREDITS	

<i>whole of the course, give the weekly teaching hours and the total credits</i>		
Lecture and laboratory exercises	2	-
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Teaching German for Specific Purposes (specialised general knowledge), Academic skills development	
PREREQUISITE COURSES:	GERMAN I, II	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	German	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)	-	

537.591. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The aim of the course is to gradually familiarize students with the language of Medicine and introduce them to the specialized terminology used in their field of study.

Via the analysis and elaboration of specialized texts that present an increasing difficulty, students are taught complex grammar and syntactic phenomena of German as a foreign language and German for Specific Purposes.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

.....

Others...

.....

By the end of this course students will have developed the following skills (general abilities):

1. Ability to exhibit knowledge and understanding of the studied concepts, theories and applications which are related to Medicine.
2. Study skills needed for continuing academic and professional development related to English as a Foreign Language and English for General Academic and Specific Purposes.

538.592. SYLLABUS

- Enhancement of medical vocabulary
- Introduction to German for Specific Purposes/Specialized use of the German

language with an emphasis on Medicine and Pharmacy

- Introduction to German for Specific Purposes and German for Medicine
- Comparing Greek to German curricula

- Written speech comprehension:

Pharmacology

Medical specialization

Hospital/Surgery

Anatomy and diseases

Communication

- Complex grammar phenomena :

The use of noun phrases in Academic and Medical German

Employing verbs in Academic and Medical German

Subjunctive I

Passive Voice

539.593. TEACHING and LEARNING METHODS - EVALUATION

<p>DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	<p>Face-to-face(class)</p>																							
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>No</p>																							
<p>TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<table border="1"> <thead> <tr> <th><i>Activity</i></th> <th><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>16</td> </tr> <tr> <td>Laboratory practice</td> <td>10</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Course total</td> <td>26</td> </tr> </tbody> </table>		<i>Activity</i>	<i>Semester workload</i>	Lectures	16	Laboratory practice	10															Course total	26
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Course total	26																							
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<i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	
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AClick or tap here to enter text.

540.594. ATTACHED BIBLIOGRAPHY

1.**D.Levy-Hillereich**: Kommunikation in sozialen und medizinischen Berufen (Cornelsen Verlag, München 2009)

2.**P.W.Ruff**: Einführung in den Gebrauch der medizinischen Fachsprache (Europa Lehrmittel,2015)

3.. **P.Schulze** :Fachsprache der Medizin(Lingua Med Verlag , Neu Isenburg,2003

4.**Duden Wörterbuch**: Medizinische Fachbegriffe, Dudenverlag Mannheim 2007

COURSE OUTLINE

541.595. GENERAL

SCHOOL	School of Medicineof Health Sciences
ACADEMIC UNIT	Medicine

LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MED_474	SEMESTER	4 (Spring)
COURSE TITLE	German IV		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
Lecture and laboratory exercises	2	-	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Teaching German for Specific Purposes (specialised general knowledge), Academic skills development		
PREREQUISITE COURSES:	GERMAN I, II, III		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	German		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	-		

542.596. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of

the European Higher Education Area

- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The aim of the course is to gradually familiarize students with the language of Medicine and introduce them to the specialized terminology used in their field of study.

Via the analysis and elaboration of specialized texts that present an increasing difficulty, students are taught complex grammar and syntactic phenomena of German as a foreign language and German for Specific Purposes.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and

sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

.....

Others...

.....

By the end of this course students will have developed the following skills (general abilities):

1. Ability to exhibit knowledge and understanding of the studied concepts, theories and applications which are related to Medicine
2. Study skills needed for continuing academic and professional development related to English as a Foreign Language and English for General Academic and Specific Purposes.

3SYLLABUS

Diagnosis

Anamnesis-Medical History

Human Body

Symptoms of illness

Therapeutic methods

Medicines

Heart

Transplantation

Endocrines System

Complex grammar phenomena :
in Academic and Medical German

The use of noun phrases

Employing verbs in Academic and Medical German

Derivatives

543.597. TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face(class)	
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	No	
<p style="text-align: center;">TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	Lectures	16
	Laboratory practice	10
	Course total	26
<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Assessment language is German</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> • Exam (90%) • Attention and Participations (10%) 	

AClick or tap here to enter text.

544.598. ATTACHED BIBLIOGRAPHY

- A) L.Burmester-Lippert: Medizinische Fachsprache leicht gemacht, Schattauer Verlag, 2011
- B) A. Karenberg: Fachsprache Medizin im Schnellkurs, Schattauer Verlag 2009
- C)D.Thommes /A. Schmidt: Menschen im Beruf Medizin, Hueber 2016
- D) Duden Wörterbuch : Medizinische Fachbegriffe, Dudenverlag 2007

COURSE OUTLINE

599. GENERAL

SCHOOL	of Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_172	SEMESTER OF STUDIES	First
COURSE TITLE	French for Medicine I		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures and language practice exercises (laboratory practice)	3	2	
COURSE TYPE	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of English is recommended towards students' successful completion of the course (A1/A2 level).		
TEACHING AND ASSESSMENT LANGUAGE:	French		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/FLU124/		

600. LEARNING OUTCOMES

Learning outcomes

-

The aim of this course is to brush upon students' general French language skills with an emphasis on Medical French topics and enhance their technical and semi-technical vocabulary in the Medical Language.

Learning outcomes

At the end of the course students:

1. will have practiced and improved all four French language skills
2. will have introduced themselves to topics in Medicine, and the language used in the field.
3. will have acquired the skills to approach texts in Medicine (text comprehension, linguistic practice, vocabulary building, written speech production)

General Abilities

By the end of this course students will have developed the following skills (general abilities):

1. Ability to exhibit knowledge and understanding of the studied concepts, theories and applications, which are related to Medicine.
2. Study skills needed for the continuous academic and professional development related to French as a Foreign Language and French for General Academic and Specific Purposes.
3. Ability to interact with others on medical or interdisciplinary nature issues.

Moreover, students will have developed the following general competences (from the list above):

Decision making

Autonomous (Independent) work

Team work

Working in an international environment

Work design - Project Planning and management

Practicing criticism and self-criticism

Promotion of free, creative and inductive thinking

601. COURSE CONTENT

The course covers the following topics in Mechanical Engineering:

- What is Medicine; an introduction
- Basics in Science
- Medical specialties
- Academic French Practice

602. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures (2 conduct hours per week x 13 weeks)	26
	Laboratory and language practice (1 conduct hour per week x 13 weeks)	13

	Homework preparation	20
	Oral presentation	30
	Final exam	36
	Course total	125

STUDENT ASSESSMENT	<p>The language of evaluation is French.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> • Final written exam (task based exam) – 80% • Optional oral presentation (10%) • Attendance and participation (10%)
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	<p>The evaluation criteria are explicitly mentioned in the course syllabus handout distributed to students and uploaded in the e-class platform (URL of the course – see above)</p>
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603. RECOMMENDED LITERATURE

604. *Prêts... Partez!!!!* A1-A2 : Souzana Apartian, Noelle Bertin, Le Livre Ouvert, 2016

605. *Le français des médecins* : Thomas Fossier, Solange Talavera-Goy, PUG 2008

COURSE OUTLINE

606. GENERAL

SCHOOL	of Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_272	SEMESTER OF STUDIES	Second
COURSE TITLE	French for Medicine II		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures and language practice exercises (laboratory practice)	3	2	
COURSE TYPE	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of French is recommended towards students' successful completion of the course (A2/B1 level).		
TEACHING AND ASSESSMENT LANGUAGE:	French		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/FLU125/		

607. LEARNING OUTCOMES

Learning outcomes

-

The aim of the course

The aim of this course is to brush upon students' general French language skills with an emphasis on more medical French topics and enhance their medical and semi-medical vocabulary in Medical Language (following French for Medicine I)

Learning outcomes

At the end of the course students:

1. will have practiced and improved all four French language skills
2. will have introduced themselves to more topics in Medicine, and the language used in the field.
3. will have acquired the skills to approach texts in Medicine (text comprehension, linguistic practice, vocabulary building, written speech production)

General Abilities

By the end of this course students will have developed the following skills (general abilities):

4. Ability to exhibit knowledge and understanding of the studied terms, concepts and applications studied in Medicine.
5. Study skills needed for continuing academic and professional development related to French as a Foreign Language and French for General Academic and Specific Purposes (Medical French).
6. Ability to interact with others on medical or of interdisciplinary nature issues.

Moreover, students will have developed the following general competences (from the list above):

Decision making

Autonomous (Independent) work

Team work

Working in an international environment

Work design - Project Planning and management

Practicing criticism and self-criticism

Promotion of free, creative and inductive thinking

608. COURSE CONTENT

The course covers the following topics:

1. Connaissance de l'homme et hygiène de vie
2. Les Maladies
3. Les éléments naturels au service de la Médecine

609. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures (2 conduct hours per week x 13 weeks)	26
	Laboratory and language practice (1 conduct hour per week x 13 weeks)	13

	Homework preparation	20
	Oral presentation	30
	Final exam	36
	Course total	125

STUDENT ASSESSMENT	<p>The language of evaluation is French.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> • Final written exam (task based exam) – 80% • Optional oral presentation (10%) • Attendance and participation (10%)
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	<p>The evaluation criteria are explicitly mentioned in the course syllabus handout distributed to students and uploaded in the e-class platform (URL of the course – see above)</p>
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610. RECOMMENDED LITERATURE

- *Prêts... Partez!!!! A1-A2* : Apartian S., Bertin N., Le Livre Ouvert, Athènes 2016
- *Le français des médecins* :Thomas Fossier, Solange Talavera-Goy, PUG 2008
- *La médecine pour tous*: Goust Fr., Larousse 1954

COURSE OUTLINE

611. GENERAL

SCHOOL	of Health Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_372	SEMESTER OF STUDIES	Third
COURSE TITLE	French for Medicine III		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures and language practice exercises (laboratory practice)	3	2	
COURSE TYPE	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of French is recommended towards students' successful completion of the course (B1/B2 level).		
TEACHING AND ASSESSMENT LANGUAGE:	French		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/FLU126/		

612. LEARNING OUTCOMES

Learning outcomes

-

The aim of this course is to brush upon students' general French language skills with an emphasis on Medical French topics and enhance their medical and semi-medical vocabulary in the Medical Language. It also introduces students to medical writing and communication.

Learning outcomes

At the end of the course students:

1. will have practiced and improved all four French language skills
2. will have introduced themselves to more topics in Medicine, and the language used in the field.
3. will have acquired the skills to approach texts in Medicine (text comprehension, linguistic practice, vocabulary building, written speech production)
4. will practiced writing medical reports
5. will have familiarized themselves with academic articles of their field and their features

General Abilities

By the end of this course students will have developed the following skills (general abilities):

7. Ability to exhibit knowledge and understanding of the studied terms, concepts and applications studied in Medicine.
8. Study skills needed for continuing academic and professional development related to French as a Foreign Language and French for General Academic and Specific Purposes (Medical French).
9. Ability to interact with others on medical or of interdisciplinary nature issues.

Moreover, students will have developed the following general competences (from the list above):

Decision making

Autonomous (Independent) work

Team work

Working in an international environment

Work design - Project Planning and management

Practicing criticism and self-criticism

Promotion of free, creative and inductive thinking

613. COURSE CONTENT

The course covers the following topics:

1. Academic French: Revision of useful academic verbs, nouns, adjectives, and adverbs.
2. Reporting verbs
3. Sources
4. Referencing systems
5. Medical report writing; lab/academic and business reports
6. Reading and elaborating on academic articles

614. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
TEACHING ORGANIZATION	Teaching Method	Semester Workload
	Lectures (2 conduct hours per	26

	week x 13 weeks)	
	Laboratory and language practice (1 conduct hour per week x 13 weeks)	13
	Homework preparation	20
	Written report assignment	30
	Final exam	36
	Course total	125
STUDENT ASSESSMENT	<p>The language of evaluation is French.</p> <p>The evaluation includes:</p>	

	<ul style="list-style-type: none"> • Final written exam (task based exam) – 80% • Written report and short assignments (10%) • Attendance and participation (10%) <p>The evaluation criteria are explicitly mentioned in the course syllabus handout distributed to students and uploaded in the e-class platform (URL of the course – see above)</p>
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615. RECOMMENDED LITERATURE

1. Carras C.,Tolas J.,Kolher P.,Szilagyi E., *Le français sur objectifs spécifiques et la classe de langue*, CLE International, Paris 2007
2. Balmet S.E., Henao de Legge M., *Pratiques du français scientifique*, HACHETTE/AUPELF, Paris 1992
3. Corado L., Sanchez-Macagno MO., *Français des affaires*, HACHETTE, Paris 1990.
4. Instructor’s notes.
5. Prêts... Partez!!! B1, Bertin N.,Apartian S., *Le livre ouvert*, Athènes 2017.

COURSE OUTLINE

616. GENERAL

SCHOOL	of Health Sciences		
SEPARTMENT	Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_472	SEMESTER OF STUDIES	Fourth
COURSE TITLE	French for Medicine IV		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures and language practice exercises (laboratory practice)	3	2	
COURSE TYPE	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
PREREQUISITE COURSES:	There are no prerequisites for the course. However, good knowledge of French is recommended towards students' successful completion of the course (B1/B2 level).		
TEACHING AND ASSESSMENT LANGUAGE:	French		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/FLU127/		

617. LEARNING OUTCOMES

Learning outcomes

-

The aim of this course is to brush upon students' general French language skills with an emphasis on Medical French topics and enhance their medical and semi-medical vocabulary in the Medical Language. It also introduces students to medical writing and communication.

Learning outcomes

At the end of the course students:

1. will have practiced and improved all four French language skills
2. will have introduced themselves to more topics in Medicine, and the language used in the field.
3. will have acquired the skills to approach texts in Medicine (text comprehension, linguistic practice, vocabulary building, written speech production)
4. will practiced writing medical reports
5. will have familiarized themselves with academic articles of their field and their features

General Abilities

By the end of this course students will have developed the following skills (general abilities):

10. Ability to exhibit knowledge and understanding of the studied terms, concepts and applications studied in Medicine.
11. Study skills needed for continuing academic and professional development related to French as a Foreign Language and French for General Academic and Specific Purposes (Medical French).
12. Ability to interact with others on medical or of interdisciplinary nature issues.

Moreover, students will have developed the following general competences (from the list above):

Decision making

Autonomous (Independent) work

Team work

Working in an international environment

Work design - Project Planning and management

Practicing criticism and self-criticism

Promotion of free, creative and inductive thinking

618. COURSE CONTENT

The course covers the following topics:

1. Academic French: Revision of useful academic verbs, nouns, adjectives, and adverbs.
2. Reporting verbs
3. Sources
4. Referencing systems
5. Medical report writing; lab/academic and business reports
6. Reading and elaborating on academic articles

619. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures (2 conduct hours per	26

	week x 13 weeks)	
	Laboratory and language practice (1 conduct hour per week x 13 weeks)	13
	Homework preparation	20
	Written report assignment	30
	Final exam	36
	Course total	125
STUDENT ASSESSMENT	<p>The language of evaluation is French.</p> <p>The evaluation includes:</p>	

	<ul style="list-style-type: none"> • Final written exam (task based exam) – 80% • Written report and short assignments (10%) • Attendance and participation (10%) <p>The evaluation criteria are explicitly mentioned in the course syllabus handout distributed to students and uploaded in the e-class platform (URL of the course – see above)</p>
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620. RECOMMENDED LITERATURE

6. Carras C.,Tolas J.,Kolher P.,Szilagyi E., *Le français sur objectifs spécifiques et la classe de langue*, CLE International, Paris 2007
7. Balmet S.E., Henao de Legge M., *Pratiques du français scientifique*, HACHETTE/AUPELF, Paris 1992
8. Corado L., Sanchez-Macagno MO., *Français des affaires*, HACHETTE, Paris 1990.
9. Instructor’s notes.
10. Prêts... Partez!!! B1, Bertin N.,Apartian S., *Le livre ouvert*, Athènes 2017.

PART THREE



OPEN eClass PLATFORM

Open eClass platform is a complete Electronic Studies Management System. It constitutes GUnet's academic Network proposal for Asynchronous Tele-education Services support. This platform pursues to integrate new technologies and constructively use internet in the educational process. Introduction of Asynchronous Tele-education provides new possibilities in education, by offering an interactive medium of continuous communication between trainer and trainee. In parallel, electronic organization, storage and presentation of educational material is supported, independent of limiting factors of space and time in classic teaching methods, thus creating the foundations of a dynamic virtual education environment. Open class Platform's designed aims towards corroborating the educational process. More specifically, teachers can easily and quickly create user-friendly and operational electronic classes, while using their own source material (notes, presentations, texts, images etc.). Trainees, on their side, acquire an alternative access point in offered theoretic knowledge.

Basic Features of this platform are:

1. Discrete user roles
2. Discrete lesson categories
3. Ease of using and creating lessons
4. Structured lesson presentation
5. Stability and dependability
6. Ease of management

Basic Aims of this platform are:

1. Integrating new technologies in the educational process
2. Utilization of pre-existing educational material (notes, presentations etc.)
3. Constructive Internet use by trainers and trainees
4. Support of a dependable, low-cost Asynchronous Tele-education Service
5. Ease of install, management and versatility in meeting specialized needs and requirements

For more information, please visit the site: <https://class.parts.go>

LABORATORY TRAINING REGULATIONS

General rule

1. Laboratory exercises begin according to timetable definitions, without an “academic quarter” delay.

Supervisors and trainees

2. Strictly prohibited are:

- a. Food and drinks consumption in laboratories, tutorial halls and hallways
- b. Smoking in laboratories, tutorial halls and hallways.
- c. Entrance and occupancy in halls and hallways for non-personnel individuals.

3. During the exercise:

- a. Oral use of pipettes is prohibited.
- b. Open windows or open alcohol/ether bottles are prohibited when gas suppliers are lit on.
- c. Any accident should be immediately reported to the exercise’s supervisor.
- d. No communication between trainees, supervisors and both is required. In case of necessary communication, it should be done in an orderly and low-noise fashion, in order not to hassle everyone else.

3. Asthma and allergic patients, as well as every individual having a health problem due to exacerbate by materials used during the exercise, should immediately report to the exercise’s supervisor.

Trainees only

1. Laboratory exercises are compulsory. Students should be on time, without any delays and have with them, wherever necessary, their own lab coats.

2. When reporting for a lab exercise, students should be updated about the subject matter related to the exercise taking place and have an active contribution to it.

3. During the exercise, full compliance with the rules of safely using toxic, caustic, radioactive, volatile substances or managing biological materials (e.g. blood, tissues etc.) is mandatory, the way these rules are defined by the exercise’s supervisors.

4. Compliance with rules regarding equipment cleanness (e.g. lights, microscopes) and benches is also mandatory, the way these rules are defined by the exercise’s supervisor.

5. Please avoid:

A. Tampering with materials and equipment located on the exercise’s bench before given instructions by the supervisors.

B. moving laboratory devices or glass materials from supervisor-defined

positions or from one position to another.

6. Abandoning the defined post during the exercise without the supervisor's consent, is generally prohibited.

MEDICAL STUDENTS SCIENTIFIC ASSOCIATIONS

Hellenic Medical Students International Committee - HelMISC

Address

HELMSIC PATRAS, P. O. BOX 1201, 26110 PATRAS

General

The Hellenic Medical Students' International Committee (HelMSIC) non-government, non-profit, non-political independent union. It was established in 1958 by Medical Students and today it is comprised of 7 Regional Committees, one in every city having a Medical School. The General Secretariat of HelMSC is located in Athens.

Main Purpose is to sensitize and activate medical students as well as society in matters including:

- Public Health
- Medical Education
- Promoting World Peace and Human Rights
- Prevention of Sexually Transmitted Diseases and AIDS
- Educational Student Exchange, in a Clinical and Laboratory level.

What are HelMSIC's clinical and research type exchanges?

These are exchanges regarding Medical students, and are realized through contracts between countries all over the world and are divided into clinical and research types. Usually the research exchanges are performed in Laboratories and clinical exchanges in Hospital Clinics.

In which year can medical students

In research exchange all years' students can participate and in clinical exchange students of 3rd year and above only.

participate in a research exchange and in which in a clinical exchange?

HeIMSiC's actions are basically divided into six thematic which also constitute the committees where its members are working:

- **SCOPE - Professional Exchanges:** every year in a national level, approximately 350 student exchanges are realized, in which students are trained in a University Clinic for one-month duration.
- **SCORE - Research Exchanges:** every year in a national level, approximately 100 student exchanges are realized, in which students are trained in a Research Center for one-month duration.
- **SCOPH - Public Health:** it includes community briefings in public health issues such as Diabetes, Substance abuse, cancer etc. For this purpose, specialized educational seminars are offered to Medical students who perform specially aimed interventions.
- **SCOPR - Human Rights and Peace:** It includes Human Rights in healthcare and health access for vulnerable individuals. Περιλαμβάνει τα ανθρώπινα δικαιώματα στο χώρο της υγείας και την πρόσβαση στην υγεία για ευπαθείς πληθυσμούς For this purpose, specialized educational seminars are offered to Medical students who perform specially aimed interventions.
- **SCORA - Reproductive Health & HIV/AIDS:** Informing medical Students and through them young people, on matters of sexual health and rights through training seminars of equivalent education.
- **SCOME - Medical Education:** Focuses on matters of Medical Education and changes in Studies' Program, while performing specialized workshops where Medical students can learn specific techniques.

Its targets are made reality through various activities, often in collaboration with other institutions, which include daily seminars, and medical interest speeches, researches, healthcare programs, medical students' updates in matters regarding medical specialties and medical training, medical students' exchanges, community contribution activities and public sensitization and information on matters of public health. In parallel, HeIMSiC is a proud member of:

- International Federation of Medical Students' Associations – (IFMSA)
- European Medical Students' Association – (EMSA)
- Hellenic National Youth Council (HNYC).

Through participation in international Student Associations, HelMSIC is channeling the Greek Medical Students' voices abroad, helping to facilitate communication and cooperation. HelMSIC cooperates with many non-government organizations and unions in Greece, in order to materialize its actions, such as Doctors of the World, Doctors without frontiers and ACT UP, while acting as a Scientific collaborator for the Center of Disease Control And Prevention. Kofi Annan, Secretary general for the United Nations, Addressing IFMSA members (and in that regard, HelMSIC members), stated that: ***“As medical students committed to sharing your knowledge and skills internationally, you are a powerful source of hope for the future. I commend your determination to use your medical training to benefit all members of society.”***

HELLENIC SCIENTIFIC SOCIETY OF MEDICAL STUDENTS

Establishment/Aim: In 16.9.93 EEFIE was established after formal induction in the registry of Athens' First Degree Court, with No.14991. Since then it acts as a non-government, non-profit association, in an attempt to scientifically mobilize Hellenic Health Sciences Students. This attempt regards the reinforcement and support of Medical, Dentistry and Pharmacology Students through Greece, strengthening their relations and facilitating the fertile exchange of ideas. Based on these above targets, EEFIE organizes:

- ◆ Informative and training seminars
- ◆ One-day seminars in local departments
- ◆ Student participation programs in everyday clinical practice through summer vacation.
- ◆ Publication of scientific textbooks and the "in vivo" scientific journal.
- ◆ The annual Medical Student Congress

Various cultural events (excursions, exhibitions, concerts etc.)

Association Structure - Organization Planning, organizing, and materializing these programs described above, is primarily work **of the students themselves**. EEFIE has local departments and offices in each Greek city which has a Medical School (Athens Thessaloniki, Patras, Irakleio, Larisa, Ioannina, and Alexandroupoli). It consists of approximately 1500 members, regular, emeritus and honorary. Any undergraduate Medical, Dentistry and Pharmacology student under 35 years of age can become a regular member. All regular members are equivalent. Graduates of the above University Departments can become emeritus members, carrying all rights of regular members except electing and being elected in administrative positions. Exceptional individuals, in the fields of scientific and community contribution, or contribution to EEFIE goals, can become honorary members, after unanimously elected by the Association's Administrative Board. Every member has a membership card which is used as a means of identification and access to shops inside the Association Discount Network, in every department city.

DEPARTMENTS

Departments are managed through the Department Assembly, which is

constituted of all the regular members who are registered in the department record, and of the elected 5-member Department Council, which in turn is comprised of President, Vice-president, Secretary, cashier and member.

CENTRAL ADMINISTRATION

MAIN Overview of EEFI's attempts are monitored by the General Assembly (GA), and the Administrative Board (AB). GA is the supreme administrative structure and is comprised of every regular EEFIE member. The AB is constituted of 13 members: 4 members are elected by the GA (President, Vice-president, Secretary General and Cashier General), 7 Department representatives (President or legal replacement member), 1 EEFIE abroad-office representative and 1 Dentistry students' representative.

ESTABLISHED CLINICS AND LABORATORIES

LABORATORIES

	NAME	RELEVANT LAW	ESTABLISHMENT
	BIOLOGICAL CHEMISTRY	L. 641/18-7-77	OGG 200/22-7-77
	GENERAL BIOLOGY	L. 641/18-7-78	OGG 200/22-7-78
	MEDICAL PHYSICS	L. 641/18-7-78	OGG 200/22-7-78
	ANATOMY	L. 641/18-7-78	OGG 200/22-7-78
	PHYSIOLOGY	L. 641/18-7-78	OGG 200/22-7-78
	GEN. PHARMACOLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	RADIOLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	MICROBIOLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	ANATOMICAL PATHOLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	PUBLIC HEALTH	P.D. 789/19-8-80	OGG 194/26-8-80
	NUCLEAR MEDICINE	P.D. 269/11.9.02	OGG 307/02
	PATHOLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	NEUROLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	PSYCHIATRY	P.D. 789/19-8-80	OGG 194/26-8-80
	SURGERY	P.D. 789/19-8-80	OGG 194/26-8-80
	ANAESTHESIOLOGY&INTENSE CARE	P.D. 292/26-7-93	OGG 130/3-8-93
	OPHTHALMOLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	PAEDIATRICS	P.D. 789/19-8-80	OGG 194/26-8-80
	OBSTETRICS-GYNEKOLOGY	P.D. 789/19-8-80	OGG 194/26-8-80
	DERMATOLOGY	P.D. 292/26-7-93	OGG 130/3-8-93
	UROLOGY	P.D. 292/26-7-93	OGG 130/3-8-93
	NEUROSURGERY	P.D. 292/26-7-93	OGG 130/3-8-93
	OTORHINOLARYNGOLOGY	P.D. 292/26-7-93	OGG 130/3-8-93
	ORTHOPAEDICS	P.D. 292/26-7-93	OGG 130/3-8-93
	CARDIOTHORACIC SURGERY	P.D. 130/15-6-99	OGG 131/29-6-99
	PAEDIATRIC SURGERY	P.D. 49/16-2-01	OGG 38/5-3-01
	VASCULAR SURGERY	M.D38197/B1/31-3-08	OGG 690/21-4-08 &
	RECOVERY OF PATIENTS WITH SPINAL CORD INJURIES	M.D 0640/B1/9-7-10	OGG 1160/24-6-08 OGG 1091/19-7-10

CLINICS

ο ΟΡΚΟΣ ΤΟΥ ΙΠΠΟΚΡΑΤΟΥΣ

Κ ΜΝΥΜΙ ΑΠΟΛΛΩΝΑ ΙΗΤΡΟΝ, ΚΑΙ ΑΣΚΛΗΠΙΟΝ,
ΚΑΙ ΥΓΕΙΑΝ, ΚΑΙ ΠΑΝΑΚΕΙΑΝ, ΚΑΙ ΘΕΟΥΣ ΠΑΝ
ΤΑΣ ΤΕ ΚΑΙ ΠΑΣΑΣ, ΙΣΤΟΡΑΣ ΠΟΙΕΥΜΕΝΟΣ, ΕΠΙ
ΤΕΛΕΑ ΠΟΙΗΣΕΙΝ ΚΑΤΑ ΔΥΝΑΜΙΝ ΚΑΙ ΚΡΙΣΙΝ ΕΜΗΝ
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ΑΙ ΜΕΝΤΟΝ ΔΙΔΑΞΑΝΤΑ ΜΕ ΤΗΝ ΤΕΧΝΗΝ ΤΑΥΤΗ
Ν ΙΣΑ ΓΕΝΕΤΗΣΙΝ ΕΜΟΙΣΙ, ΚΑΙ ΒΙΟΥ ΚΟΙΝΩΣΑΣΘΑΙ, Κ
ΑΙ ΧΡΕΩΝ ΧΡΗΖΟΝΤΙ ΜΕΤΑΔΟΣΙΝ ΠΟΙΗΣΑΣΘΑΙ, Κ
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ΕΕΙΝ ΑΡΡΕΣΙ, ΚΑΙ ΔΙΔΑΞΕΙΝ ΤΗΝ ΤΕΧΝΗΝ ΤΑΥΤΗΝ,
ΗΝ ΧΡΗΖΟΥΣΙ ΜΑΝΘΑΝΕΙΝ, ΑΝΕΥ ΜΙΣΘΟΥ ΚΑΙ ΞΥ
ΓΓΡΑΦΗΣ, ΠΑΡΑΓΓΕΛΙΗΣ ΤΕ ΚΑΙ ΑΚΡΟΗΣΙΟΣ ΚΑΙ ΤΗΣ
ΛΟΙΠΗΣ ΑΠΑΣΗΣ ΜΑΘΗΣΙΟΣ ΜΕΤΑΔΟΣΙΝ ΠΟΙΗΣΑΣ
ΘΑΙ ΥΙΟΙΣΙ ΤΕ ΕΜΟΙΣΙ, ΚΑΙ ΤΟΙΣΙ ΤΟΥ ΕΜΕ ΔΙΔΑΞΑΝ
ΤΟΣ, ΚΑΙ ΜΑΘΗΤΑΙΣΙ ΣΥΓΓΕΓΡΑΜΜΕΝΟΙΣΙ ΤΕ ΚΑΙ ΛΟ
ΚΙΣΜΕΝΟΙΣ ΝΟΜΩ, ΙΗΤΡΙΚΩ, ΑΛΛΩ, ΔΕ ΟΥΔΕΝΙ.
ΔΙΑΙΤΗΜΑΣΙ ΤΕ ΧΡΗΣΟΜΑΙ ΕΠ' ΩΦΕΛΕΙΗ, ΚΑΜΝΟ
ΝΤΩΝ ΚΑΤΑ ΔΥΝΑΜΙΝ ΚΑΙ ΚΡΙΣΙΝ ΕΜΗΝ, ΕΠΙ ΔΗΛΗ
ΣΕΙ ΔΕ ΚΑΙ ΑΔΙΚΗ, ΕΙΡΪΕΙΝ. ΟΥ ΔΩΣΩ ΔΕ ΟΥΔΕ
ΦΑΡΜΑΚΟΝ ΟΥΔΕΝΙ ΑΙΤΗΘΕΙΣ ΘΑΝΑΣΙΜΟΝ, ΟΥΔΕΥ
ΦΗΓΗΣΟΜΑΙ ΞΥΜΒΟΥΛΙΗΝ ΤΟΙΗΝΔΕ' ΟΜΟΙΩΣ ΔΕ ΟΥ
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ΙΩΝΤΑΣ, ΕΚΧΩΡΗΣΩ ΔΕ ΕΡΓΑΤΗΣΙΝ ΑΝΔΡΑΣΙ ΠΡ
ΗΪΙΟΣ ΤΗΣΔΕ. ΕΣ ΟΙΚΙΑΣ ΔΕ ΟΚΟΣΑΣ ΑΝ ΕΣΩ,
ΕΣΕΛΕΥΣΟΜΑΙ ΕΠ' ΩΦΕΛΕΙΗ, ΚΑΜΝΟΝΤΩΝ, ΕΚΤ
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Η ΙΔΩ, Η ΑΚΟΥΣΩ, Η ΚΑΙ ΑΝΕΥ ΘΕΡΑΠΗΪΗΣ ΚΑΤΑ Β
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