

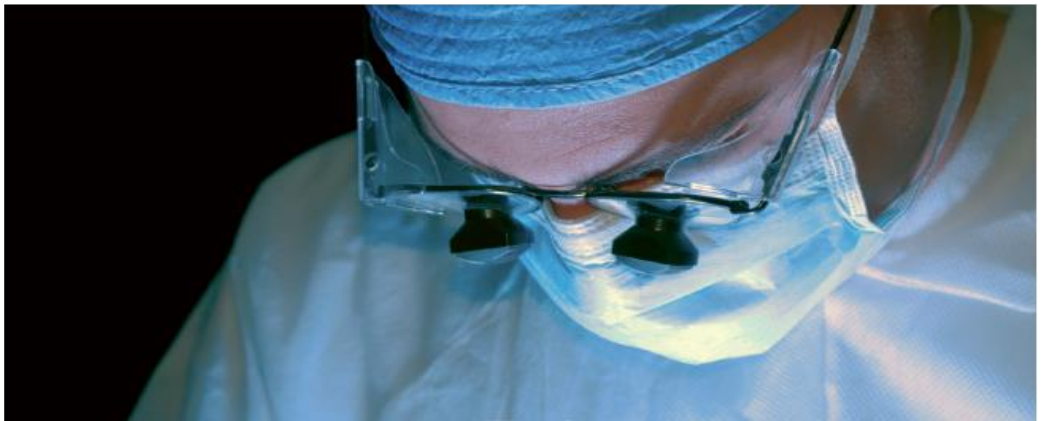


UNIVERSITY OF  
**PATRAS**  
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

UNIVERSITY OF PATRAS

SCHOOL OF MEDICINE

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



**MEDICAL CURRICULUM  
&  
STUDY GUIDE**

2023-2024

## Contents

Contents .....	2
PART ONE .....	9
THE SCHOOL OF HEALTH SCIENCES.....	10
COMPOSITION OF SECRETARY .....	10
REGISTRATIONS .....	15
ELECTRONIC SERVICE FOR ACQUIRING ACADEMIC IDENTITY .....	15
TEACHING .....	16
ATTENDANCE – EXAMINATIONS .....	17
TRANSFER OF ADMISSION .....	17
FOREIGN LANGUAGES .....	18
PROCEDURE FOR COURSE RECOGNITION .....	18
GRADE CORRECTIONS .....	19
OBTAINING THE DEGREE - CALCULATION OF THE DEGREE GRADE .....	19
GRADUATION OATH .....	19
DATES OF COURSES AND EXAMINATIONS .....	20
HOLIDAYS.....	20
ACCOMMODATION .....	21
CATERING FACILITIES.....	21
UNIVERSITY SPORTS CENTER.....	22
STUDENTS’ ASSOCIATION.....	22
SCHOLARSHIPS – AWARDS – LOANS .....	23
ERASMUS + PROGRAM.....	24
MEMORANDUM OF ACADEMIC COLLABORATION WITH JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE.....	24
TRANSFERS FROM OTHER SCHOOLS .....	25
THE EUDOXUS PLATFORM.....	27
Library and Information Service (LIS) .....	28
PART TWO .....	30
LEARNING OUTCOMES .....	31

STUDIES CONTENT .....	32
THE NEW CURRICULUM .....	32
Course Outlines .....	45
<b>1<sup>st</sup> Semester</b> .....	45
<b>COURSE OUTLINE MED_111</b> .....	45
<b>COURSE OUTLINE MED_121</b> .....	49
COURSE OUTLINE MED_131 .....	55
COURSE OUTLINE MED_151 .....	59
COURSE OUTLINE MED_161 .....	62
<b>2<sup>nd</sup> Semester</b> .....	65
COURSE OUTLINE MED_211 .....	65
COURSE OUTLINE MED_221 .....	69
COURSE OUTLINE MED_231 .....	74
COURSE OUTLINE MED_241A .....	77
COURSE OUTLINE MED_241B .....	81
COURSE OUTLINE MED_251 .....	86
COURSE OUTLINE MED_261 .....	88
<b>3<sup>rd</sup> Semester</b> .....	91
COURSE OUTLINE MED_311 .....	91
COURSE OUTLINE MED_321A .....	97
COURSE OUTLINE MED_321B .....	101
COURSE OUTLINE MED_331 .....	105
COURSE OUTLINE MED_341 .....	109
COURSE OUTLINE MED_351 .....	111
<b>4<sup>th</sup> Semester</b> .....	114
COURSE OUTLINE MED_411 .....	114
COURSE OUTLINE MED_420 .....	121
COURSE OUTLINE MED_431 .....	124
COURSE OUTLINE MED_441 .....	127
COURSE OUTLINE MED_451 .....	130

COURSE OUTLINE MED_461.....	133
<b>5<sup>th</sup> Semester</b> .....	136
Mandatory courses.....	136
COURSE OUTLINE MED_451.....	136
COURSE OUTLINE MED_521.....	140
COURSE OUTLINE MED_531.....	144
COURSE OUTLINE MED_541.....	147
COURSE OUTLINE MED_141.....	151
COURSE OUTLINE MED_551.....	155
Optional Courses .....	158
COURSE OUTLINE MED_551.....	158
COURSE OUTLINE MED_581.....	161
COURSE OUTLINE MED_591.....	164
COURSE OUTLINE MED_592.....	166
COURSE OUTLINE MED_593.....	169
COURSE OUTLINE MED_594.....	172
COURSE OUTLINE MED_595.....	174
COURSE OUTLINE MED_596.....	178
COURSE OUTLINE MED_597.....	181
COURSE OUTLINE MED_598.....	185
COURSE OUTLINE MED_599.....	188
<b>6<sup>th</sup> Semester</b> .....	191
COURSE OUTLINE MED_681.....	191
COURSE OUTLINE MED_621.....	195
COURSE OUTLINE MED_631.....	200
COURSE OUTLINE MED_611.....	204
COURSE OUTLINE MED_641.....	207
COURSE OUTLINE MED_651.....	210
<b>7<sup>th</sup> Semester</b> .....	213
COURSE OUTLINE MED_722.....	213

COURSE OUTLINE MED_741.....	217
COURSE OUTLINE MED_751.....	221
COURSE OUTLINE MED_761.....	224
COURSE OUTLINE MED_721.....	227
COURSE OUTLINE MED_711.....	230
COURSE OUTLINE MED_771.....	238
COURSE OUTLINE MED_781.....	241
<b>8<sup>th</sup> Semester .....</b>	<b>245</b>
COURSE OUTLINE MED_887.....	245
COURSE OUTLINE MED_886.....	249
COURSE OUTLINE MED_885.....	253
COURSE OUTLINE MED_882.....	256
COURSE OUTLINE MED_878.....	259
COURSE OUTLINE MED_873.....	261
COURSE OUTLINE MED_839.....	264
COURSE OUTLINE MED_872.....	267
COURSE OUTLINE MED_877.....	271
COURSE OUTLINE MED_879.....	274
COURSE OUTLINE MED_884.....	278
COURSE OUTLINE MED_871.....	281
COURSE OUTLINE MED_831.....	284
COURSE OUTLINE MED_831.....	289
COURSE OUTLINE MED_883.....	292
COURSE OUTLINE MED_880.....	295
COURSE OUTLINE MED_841.....	300
COURSE OUTLINE MED_851.....	304
COURSE OUTLINE MED_881.....	307
COURSE OUTLINE MED_874.....	311
COURSE OUTLINE MED_875.....	314
<b>9<sup>th</sup> and 10<sup>th</sup> Semester.....</b>	<b>316</b>

COURSE OUTLINE MED_941.....	316
COURSE OUTLINE MED_931.....	319
COURSE OUTLINE MED_921.....	322
COURSE OUTLINE MED_931 (Additional).....	325
COURSE OUTLINE MED_911 (additional ) .....	328
COURSE OUTLINE MED_911.....	330
COURSE OUTLINE MED_911 (additional ) .....	333
COURSE OUTLINE MED_951.....	335
COURSE OUTLINE MED_961.....	338
COURSE OUTLINE MED_861 additional .....	341
<b>11<sup>th</sup> and 12<sup>th</sup> Semester</b> .....	<b>344</b>
COURSE OUTLINE MED_1175.....	344
COURSE OUTLINE MED_1164.....	346
COURSE OUTLINE MED_1160.....	348
COURSE OUTLINE MED_1158.....	352
COURSE OUTLINE MED_1124.....	355
COURSE OUTLINE MED_1123.....	358
COURSE OUTLINE MED_1176.....	361
COURSE OUTLINE MED_1171.....	363
COURSE OUTLINE MED_1174.....	365
COURSE OUTLINE MED_1169.....	367
COURSE OUTLINE MED_1163.....	369
COURSE OUTLINE MED_1161.....	371
COURSE OUTLINE MED_1159.....	378
COURSE OUTLINE MED_1162.....	381
COURSE OUTLINE MED_1172.....	383
COURSE OUTLINE MED_1155.....	386
COURSE OUTLINE MED_1152.....	388
COURSE OUTLINE MED_1121.....	390
COURSE OUTLINE MED_1167.....	392

COURSE OUTLINE MED_1154.....	395
COURSE OUTLINE MED_1168.....	397
COURSE OUTLINE MED_1165.....	402
COURSE OUTLINE MED_1170.....	404
COURSE OUTLINE MED_1125.....	407
COURSE OUTLINE MED_1153.....	410
COURSE OUTLINE MED_1156.....	412
COURSE OUTLINE MED_1166.....	414
COURSE OUTLINE MED_1151.....	417
COURSE OUTLINE MED_1122.....	419
COURSE OUTLINE MED_1126.....	421
COURSE OUTLINE MED_1157.....	423
FOREIGN LANGUAGES .....	425
COURSE OUTLINE MED_171.....	425
COURSE OUTLINE MED_271.....	429
COURSE OUTLINE MED_371.....	433
COURSE OUTLINE MED_471.....	436
COURSE OUTLINE MED_175.....	439
Russian I.....	439
COURSE OUTLINE MED_275.....	443
Russian II.....	443
COURSE OUTLINE MED_375.....	447
Russian III.....	447
COURSE OUTLINE MED_475.....	451
Russian IV .....	451
COURSE OUTLINE MED_174.....	455
COURSE OUTLINE MED_274.....	459
COURSE OUTLINE MED_374.....	463
COURSE OUTLINE MED_172.....	472
COURSE OUTLINE MED_272.....	476

COURSE OUTLINE MED_372.....	480
COURSE OUTLINE MED_472.....	485
PART THREE .....	490
POSTGRADUATE STUDIES.....	491
OPEN eClass PLATFORM.....	494
LABORATORY TRAINING REGULATIONS.....	495
QUALITY ASSURANCE .....	496
QUALITY ASSURANCE UNIT (QAU) .....	496
INTERNAL EVALUATION TEAM .....	497
MEDICAL STUDENTS SCIENTIFIC ASSOCIATIONS.....	497
Hellenic Medical Students International Committee - HelMISC.....	497
HELLENIC SCIENTIFIC SOCIETY OF MEDICAL STUDENTS .....	499
STATISTICAL DATA OF MEDICINE SCHOOL .....	500
ESTABLISHED CLINICS AND LABORATORIES .....	501



## PART ONE



## 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.

- a) General Assembly of the School consists of the members of the General Assemblies of the Departments of the School.
- b) The Deanery consists of the Dean, the Chairperson of the Departments and a student's representative from each Department.
- c) 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.

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.

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.

## COMPOSITION OF SECRETARY

<b>President</b>	Prof. George L. Adonakis
------------------	--------------------------

<b>Secretary</b>	Elisavet Skliva (+30 2610-969108, <a href="mailto:eskliva@upatras.gr">eskliva@upatras.gr</a> )
<b>Administration Staff:</b>	<p>Secretary of School of Medicine (<a href="mailto:secretary@med.upatras.gr">secretary@med.upatras.gr</a>)</p> <p>For undergraduated students' matters:</p> <p>A.Triantafyllopoylou (+302610-969103, <a href="mailto:atriant@upatras.gr">atriant@upatras.gr</a> )</p> <p>P.Psara (+302610-969169, <a href="mailto:tpsara@upatras.gr">tpsara@upatras.gr</a> )</p> <p>E. Lazari (+30 2610-969104, <a href="mailto:e.lazari@upatras.gr">e.lazari@upatras.gr</a>)</p> <p>For postgraduated students' matters:</p> <p>(+30 2610-969106, <a href="mailto:secretary@med.upatras.gr">secretary@med.upatras.gr</a>)</p> <p>A.Mixalopoylou (+30 2610-969106, <a href="mailto:medphd@upatras.gr">medphd@upatras.gr</a>)</p> <p>S.Rapti (+30 2610-969114, <a href="mailto:rapti@med.upatras.gr">rapti@med.upatras.gr</a>)</p> <p>E. Skliva (+30 2610-969108, <a href="mailto:eskliva@upatras.gr">eskliva@upatras.gr</a>)</p> <p>For faculty's matters:</p> <p>S. Rapti (+30 2610-969114, <a href="mailto:rapti@med.upatras.gr">rapti@med.upatras.gr</a>)</p> <p>E. Skliva (+30 2610-969108, <a href="mailto:eskliva@upatras.gr">eskliva@upatras.gr</a>)</p> <p>M. Arvaniti (+30 2610-969102, <a href="mailto:marvan@upatras.gr">marvan@upatras.gr</a>)</p> <p>N. Mitropoulou ( +30 2610-969101, <a href="mailto:mitropoulou@upatras.gr">mitropoulou@upatras.gr</a>)</p>

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	
<b>Laboratories</b>	<ol style="list-style-type: none"> <li>1. Biological Chemistry</li> <li>2. General Biology</li> <li>3. Medical Physics</li> </ol>
BASIC MEDICAL SCIENCES II	

<b>Laboratories</b>	<ol style="list-style-type: none"> <li>1. Anatomy</li> <li>2. Physiology</li> <li>3. General Pharmacology</li> </ol>
<b>CLINICAL LABORATORIES</b>	
<b>Laboratories</b>	<ol style="list-style-type: none"> <li>1. Radiology</li> <li>2. Microbiology</li> <li>3. Pathology</li> <li>4. Public Health</li> <li>5. Nuclear Medicine</li> </ol>
<b>INTERNAL MEDICINE I</b>	
<b>Clinics</b>	<ol style="list-style-type: none"> <li>1. Internal Medicine</li> <li>2. Cardiology</li> <li>3. Nephrology</li> </ol>
<b>INTERNAL MEDICINE II</b>	
<b>Clinics</b>	<ol style="list-style-type: none"> <li>1. Neurology</li> <li>2. Psychiatry</li> <li>3. Dermatology</li> </ol>
<b>SURGERY</b>	
<b>Clinics</b>	<ol style="list-style-type: none"> <li>1. Cardiothoracic Surgery</li> <li>2. Surgery</li> <li>3. Anaesthesiology and Intensive Care</li> <li>4. Ophthalmology</li> <li>5. Urology</li> <li>6. Neurosurgery</li> <li>7. Otorhinolaryngology</li> <li>8. Orthopaedics</li> <li>9. Vascular Surgery</li> </ol>
<b>PAEDIATRICS, OBSTETRICS, GYNAECOLOGY</b>	
<b>Clinics</b>	<ol style="list-style-type: none"> <li>1. Paediatric Surgery</li> <li>2. Paediatrics</li> </ol>

	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	

## 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.

For the first-year students, after their registration in the electronic application of the Ministry of Education, Research, and Religious Affairs, will follow the procedure below: Within a short period of time that will be determined and announced by the University, the electronic enrollment of first-year students will take place in the University of Patras' information system at [eggrafes.upatras.gr](http://eggrafes.upatras.gr) for students enrolling for the first time.

If the student has already enrolled in a first-cycle study program at the University of Patras in a previous year, the procedure will not be the same. Instructions will be provided by the Secretariats.

Enrollment Procedure: To access the [eggrafes.upatras.gr](http://eggrafes.upatras.gr) application, students need to verify their identity by entering the candidate code and at least one of the following additional pieces of information:

- Candidate Code (mandatory)
- Landline Phone
- Mobile Phone
- Surname
- Email

After logging in, you must complete the remaining requested information (in capital letters without accents) and upload exclusively in PDF format the following required documents:

1. Clear photocopy of the ID card
2. Birth certificate (issued within the last semester).

## ELECTRONIC SERVICE FOR ACQUIRING ACADEMIC IDENTITY

Since 24/09/2012, undergraduate, postgraduate, and doctoral students from all universities in the country can electronically submit their application for the issuance of a new academic identity.

The new identity features strong characteristics of mechanical durability and security against counterfeiting. Additionally, it is designed to be valid for the entire duration of the student status and cover multiple uses beyond the Student Card (Pass). The identities will be delivered to the chosen pickup point specified by each student during the application process, without any financial burden.

The new identities state the exact period of validity for the right to the Student Card. In cases where the student is not entitled to a Student Card, the card serves as a regular ID.

Each institution can also leverage the new identities to develop new services and applications, aiming to better serve its students.

The Electronic Service for Acquiring Academic Identity is provided by the Ministry of Education and Religions, with technical support from the National Research and Technology Network (N.R.T.N., <http://academicid.minedu.gov.gr>).

## TEACHING

The teaching work is distributed in semester courses. Teaching work includes: a) independent teaching of a course, b) independent teaching of specialization courses in small groups of students, c) laboratory and clinical exercises, and general practical training of students, d) supervision of projects or theses, and e) organization of seminars or other similar activities aimed at reinforcing students' knowledge.

Each semester course includes a number of "teaching units" (TU). A TU corresponds to one weekly teaching hour per semester for an independent course and one to three weekly teaching hours or exercises per semester for the remaining educational work, according to a relevant decision of the Department's Assembly. The Study Program specifies the minimum number of TUs required for obtaining the degree. The distribution of semester courses into semesters is indicative and not mandatory for students, adapting to normal student conditions and the sequence of prerequisite and dependent courses.

Elective mandatory courses cover at least 1/4 of the Study Program.

a) The first cycle of studies involves attending a study program, including courses corresponding to a minimum of 360 credit units, completed with the award of a degree. By presidential decree, issued on the proposal of the Minister of Education, Lifelong Learning, and Religion, after recommendations from the rectors of the institutions, formulated after the opinion of the faculties of the respective schools and after the opinion of the Pedagogical Institute, the total number of credit units required for the award of a degree is determined for all similar study programs, taking into account developments in each scientific field within the European Higher Education Area.

b) Each academic year includes educational activities corresponding to 60 credit units.

The Department's Assembly is responsible for the curriculum. The Study Program is revised every May. The President of the Department forms a Monitoring Committee for the Undergraduate Study Program, which submits a relevant proposal to the Department's Assembly, after encoding the proposals of the Departments.



## ATTENDANCE – EXAMINATIONS

The academic year begins on September 1st of each year and concludes on August 31st of the following year. The educational work of each academic year is structured into two semesters. Each semester comprises at least 13 full weeks for teaching.

Examinations are conducted solely after the completion of the winter and spring semesters for the courses taught in those respective semesters. A student is entitled to be examined in the courses of both semesters before the commencement of the winter semester. Special consideration is given for the oral examination of students with proven dyslexia, according to the procedure specified in the Internal Regulations of the Institution.

The exact dates of courses and examinations are determined by the Senate. The student has the right to be examined during the September period in both the winter and spring semester courses. Moreover, during the June period, the examinations cover only the spring semester courses, and during the January-February period, they cover only the winter semester courses. The grading for each course is determined by the instructor, who is obligated to organize written and/or oral examinations and may rely on assignments and/or laboratory exercises.

After the examination periods (FEBRUARY-JUNE-SEPTEMBER), the department conducts on-degree examinations. All undergraduate students of the department are entitled to participate in these examinations. The dates of the on-degree examinations are determined by the Department Assembly. The grades are sent out after the examinations. Students are declared graduates on a common date, according to a decision of the Department Assembly, and the Department of Medicine issues a Certificate of Completion of Studies before the Oath Ceremony.

A student completes their studies and receives a degree when they succeed in the prescribed courses and accumulate the required number of teaching units. The maximum duration of enrollment for students admitted from the academic year 2022-2023 onwards is equal to the number of years specified in the indicative study program of each department, plus an additional three years.

The regulations of the University of Patras Internal Regulations also apply to student enrollment, teaching, and examinations.

## TRANSFER OF ADMISSION

Successful candidates in the national exams are entitled to transfer to a corresponding School or Department of another University if they are:

- Parents of three or more children
- Parents or children of large families with three living children, including unmarried mothers
- Siblings who are successful, provided they are not already degree holders, postgraduates, or doctoral degree holders, studying at a university or TEI in a different city than their parents' permanent residence
- Orphans of one or both parents or children of unmarried mothers with one or two unrecognized children

- Successful candidates with blind, deaf, mute, or nephropathic parents, children, siblings, or spouses, or those belonging to the category of People with Disabilities (PWD) with mobility problems due to a disability exceeding 67%
- Successful candidates who are children of terrorism victims or multiple children participating in the nationwide entrance exams in the same year

The procedure for submitting applications, transferring admission, and any other necessary details are determined by decision of the Minister of Education and Religious Affairs.

University students within the regular duration of study have the right to submit a single application for electronic Transfer to a corresponding Department of a University located in a different Regional Unit than the admitting Department or for relocation to another Department in the same scientific field. The application is submitted electronically on the website of the Ministry of Education and Religious Affairs (<http://www.minedu.gov.gr/>) on dates specified by the Ministry after the completion of the registration process.

Detailed descriptions of various categories of criteria under which individuals interested can submit relevant applications, as well as the submission procedures, are outlined in Government Gazette issues 4617/B/2020 and 4806/B/2020. Furthermore, since the academic year 2018-2019, the admission of successful candidates through the transfer of siblings to a corresponding Department located in the Regional Unit of the sibling's residence is allowed. Finally, the mutual transfer of admission to a corresponding School or Department is permitted without the limitation of the income criterion or the quota criterion.

## FOREIGN LANGUAGES

Students have the right to choose among the following foreign languages taught at the University: English, French, Italian, German, and Russian. For more information, students can contact the foreign languages department.

## PROCEDURE FOR COURSE RECOGNITION

Interested students of the Department must submit a written application to the Department's Secretariat along with a detailed grade certificate, certified by the Secretariat of the originating Department, as well as the course content and laboratory exercises undertaken, certified and signed by the Laboratory/Clinic Secretariat or the responsible instructor of the originating Department. Subsequently, the instructor responsible for the Department, to whom the applications and accompanying documents should be forwarded, will propose in writing to the Department Assembly the recognition or non-recognition of the courses for the requesting student. It should be noted that recognition constitutes an exemption for the student from the obligation to attend and be examined in the respective course, and the student's record indicates the designation "recognized."

## GRADE CORRECTIONS

After the entry of grades into the electronic Secretariat by the academic staff of the Department on the specified dates set by the Department's Secretariat, the grades are sent to the Secretariat and finalized. In case of grade corrections, a document is submitted to the Department Assembly by the faculty member requesting the correction, with sufficient justification for the correction. If approved, it is then entered into the student's record in the Electronic Secretariat.

## OBTAINING THE DEGREE - CALCULATION OF THE DEGREE GRADE

To obtain a Medical degree, attendance in 12 semesters (six years of study) and successful examination in the mandatory courses of the Study Program and all prescribed elective courses are required.

The degree calculation involves multiplying the grade of each course by its weighting factor. The sum of these products is then divided by the sum of the weighting factors of all these courses.

The grades of courses successfully completed in other Schools by transfer and enrolled students, recognized upon their request, positive recommendation from the responsible instructor, and approval by the Department Assembly, are not included in the degree calculation. Additionally, grades of foreign language courses are not considered in the degree, but successful completion and examination are necessary for degree acquisition.

## GRADUATION OATH

Students who believe they have completed or are about to complete their obligations according to the above and wish to participate in the upcoming Oath Ceremony must declare it in writing to the Department's Secretariat, at least one (1) month before the ceremony, according to the relevant announcement posted on notice boards and the Department's website. Furthermore, for their participation in the Oath Ceremony, interested students, once they have finally completed their obligations in the Department, must submit the following necessary documents along with their application within the specified deadline, as indicated by the Department's Secretariat.

### REQUIRED DOCUMENTS:

Application (Available at the Secretariat)

- Affidavit of Law 1599/86 stating:

a. They do not receive food coupons for the corresponding academic year.

- b. They have no outstanding matters with the Student Dormitory.
- c. They have no outstanding matters with the University of Patras.
  - Academic ID

The Oath Ceremony for students takes place after the official examination periods of October, April, and July of the Department.

## 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 (Προάστio) 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:

- a) 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.
- b) 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.
- c) 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.
- d) 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.

## ERASMUS + PROGRAM

The University of Patras manages the ERASMUS + action of the European Student Mobility Program (undergraduate, postgraduate, and doctoral candidates).

The action includes mobility for studies (at Higher Education Institutions) and mobility for practical training (at Higher Education Institutions, Businesses, Schools, Institutes, Embassies, Hospitals, Research Centers, etc.) in countries participating in the Program.

Students can move for studies or practical training in all study cycles, totaling 12 months in each study cycle.

The Hellenic National Agency for Higher Education (I.K.Y.) has been designated as the National Coordination Unit for the European ERASMUS+ Program. Students who move for studies at Higher Education Institutions or for practical training at Host Organizations/Entities receive a monthly grant based on the Host Country. The grant is provided in two installments (1st installment - 80% upon departure, and 2nd installment - 20% upon their return).

For more information, interested parties can contact the Erasmus Office of the International Relations Department of the University of Patras at the following address: <http://www.upatras.gr/en/erasmus>.

The Coordinator of the ERASMUS+ Committee of the Medical School is Professor Georgios Kagkadas.

## 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 short 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:

- Neurosciences and neuroimaging of the Brain
- Clinical Immunology/Allergology
- Public Health
- Biotechnology-Biomechanics
- Cardiology imaging (noninvasive coronary angiography, study of the heart function by CTA 320, MRI)
- 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.

## 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.

## 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](http://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](http://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, 2<sup>nd</sup> 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](mailto:helpdesk@eudoxus.gr) or 801-11-13600).

## Library and Information Service (LIS)

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: 08:30 - 18:00
- **August**  
Monday - Friday 08:30 - 18:00
- **September** - **December**  
Monday - Friday: 08:30 - 18:00

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 Faculty 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, 8.30-19.00.

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)
- 285 titles (printed suspended subscriptions)

Digital subscriptions are also available

**Books**

- 7.500 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

**Telephone**

+30 2610 997323, +30 2610 996173

**E-mail**

[mmaniaki@upatras.gr](mailto:mmaniaki@upatras.gr), [papandr@upatras.gr](mailto:papandr@upatras.gr)

**Employee**

Maria Maniaki, Evgenia Papandreou

## PART TWO



## LEARNING OUTCOMES

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. Upon graduation from the Faculty of Medicine of the University of Patras, graduates will demonstrate:

1. **Knowledge Acquisition:** Attain profound knowledge of the intricate structure, functioning, and developmental processes of the human body. This encompasses a comprehensive understanding at both molecular and organismal behavioral levels.
2. **Critical Thinking and Application:** Develop a deep understanding of causal mechanisms and their implications in disease manifestation. Simultaneously, acquire knowledge of the fundamentals of medication therapy to address identified medical issues effectively.
3. **Clinical Skills:** Master the skills required for thorough patient care, including accurate recording of medical histories, conducting comprehensive physical examinations, and proficiently prioritizing and solving identified health issues. Possess extensive knowledge of life-threatening diseases, common ailments, and awareness of rare diseases. Recognize personal limitations and seek assistance when necessary.
4. **Environmental Health Perspective:** Recognize the impact of the environment on human health and comprehend the physician's role in disease prevention. Acquire knowledge to propose immediate solutions to occupational diseases, behavioral health issues, and public health challenges in their community.
5. **Lifelong Learning:** Acknowledge the need for continuous education in medical practice. Develop the ability to self-educate using reputable sources and practical experience. Cultivate a reflective mindset to assess personal performance.
6. **Collaboration Skills:** Demonstrate effective collaboration within clinical or research groups, fostering a team-oriented approach to healthcare.
7. **Adaptability in Medical Services:** Exhibit proficiency in diverse medical service settings, ranging from community medical centers to university clinics. Develop the ability to adapt and excel in various healthcare environments.

## 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 2<sup>nd</sup> 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:

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

REQUIRED COURSES	HOURS/WEEK	HOURS/SEMESTER	ECT S	T. U.		DIVISION
------------------	------------	----------------	-------	-------	--	----------



	Lectur es	Tutorials – Laborato ry training	Lectur es	Tutorials – Laborato ry training	Unit s		W .F .	
BIOLOGY I	3	3	42	42	7	6	2	Basic Medical Sciences I
BIOCHEMISTRY I	3	3	42	42	7	6	2	Basic Medical Sciences I
MEDICAL PHYSICS	3	3	42	42	7	6	2	Basic Medical Sciences I
MEDICAL INFORMATICS	2	2	28	28	5	4	1, 5	Basic Medical Sciences I
INTRODUCTION TO CLINICAL MEDICINE	3	-	42	-	4	3	1, 5	Internal Medicine I

1<sup>st</sup> YEAR – 2<sup>nd</sup> SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECT S Unit s	T. U .	W .F .	DIVISION
	Lectur es	Tutorials – Laborato ry training	Lectur es	Tutorials – Laborato ry 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 I	1	2	14	28	2	2	1 1	Basic Medical Sciences II

EMBRIOLOGY I	1	2	14	28		2		Basic Medical Sciences II
PHYSIOLOGY I	3	3	42	42	6	6	2	Basic Medical Sciences II
CLINICAL SKILLS-CPR	3	-	42		2	2	1	Internal Medicine I

#### 2<sup>nd</sup> YEAR – 3<sup>rd</sup> SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECT S Units	T. U .	W .F .	DIVISION
	Lectur es	Tutorials – Laborato ry training	Lectur es	Tutorials – Laborato ry training				
ANATOMY II	4	3	56	42	8	7	2	Basic Medical Sciences II
HISTOLOGY II	1	3	14	14	3	2	1	Basic Medical Sciences II
EMBRIOLOGY II	1	2	14	14	2	2	1	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	3	1, 5	Internal Medicine I - Surgery

#### 2<sup>nd</sup> YEAR – 4<sup>th</sup> SEMESTER

REQUIRED COURSES	HOURS/WEEK	HOURS/SEMESTER	ECT S			DIVISION
------------------	------------	----------------	-------	--	--	----------

	Lectur es	Tutorials - Laborato ry training	Lectur es	Tutorials - Laborato ry training	Unit s	T. U ·	W ·F ·	
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 ANATOMY I	4	3	56	42	6	7	2	Clinical Laboratories
CLINICAL SKILLS II	3	-	42		2	2	1	Internal Medicine I - Surgery

### 3<sup>rd</sup> YEAR – 5<sup>th</sup> SEMESTER

REQUIRED COURSES	HOURS/WEEK		HOURS/SEMESTER		ECT S Unit s	T. U ·	W ·F ·	DIVISION
	Lectur es	Tutorials - Laborato ry training	Lectur es	Tutorials - Laborato ry training				
PATHOLOGY ANATOMY II	4	3	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	3	-	42	-	2	3	1, 5	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		ECT S Units	T. U.	W .F .	DIVISION
	Lectur es	Tutorials-Laborato ry training	Lectur es	Tutorials-Laborato ry 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	-	2	-	28	4	2	1	Internal Medicine I
BASIC PRINCIPLES OF ROBOTICS IN MEDICINE	2			28	4	2	1	Surgery

### 3<sup>rd</sup> YEAR – 6<sup>th</sup> SEMESTER (INTEGRATION I)

SYSTEMS	HOURS /WEEK	WEEK S	TOTAL HOURS	ECTS Units	T.U.	W.F .	DIVISION
INTRODUCTION TO RADIOLOGY	25	1	25	2	1	1	Clinical Laboratories
CARDIOVASCULAR	25	2	45	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
RESPIRATORY	25	2	45	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
HEMATOLOGIC	25	2	45	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories,

							Basic Medical Sciences I, II
GASTROINTESTINAL TRACT	25	2	45	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
MUSCULO SKELETAL DISORDERS OF THE CONNECTIVE TISSUE	25	2	45	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
URINARY	25	1,5	30	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
DERMATOLOGY	25	1,5	30	4	1	1	Internal Medicine I

4<sup>th</sup> YEAR – 7<sup>th</sup> SEMESTER (INTEGRATION II)

SYSTEMS	HOURS/WEEK	WEEKS	TOTAL HOURS	ECTS Units	T.U.	W.F.	DIVISION
ENDOCRINE GLANDS	25	2	45	4	1	1	Internal Medicine, Surgery, Paediatrics and Obstetrics-Gynaecology, Clinical Laboratories, Basic Medical Sciences I, II
NEUROLOGY	25	1,5	30	4	1	1	Internal Medicine II

PSYCHIATRY	25	1,5	35	4	1	1	Internal Medicine II
OBSTETRICS-GYNAECOLOGY	25	2	45	4	1	1	Paediatrics and Obstetrics-Gynaecology
PAEDIATRICS	25	2	45	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-INFECTIOUS	25	2	45	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	20	2	1	1	Internal Medicine I, Clinical Laboratories

#### 4<sup>th</sup> YEAR – 8<sup>th</sup> 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

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 BASIS OF THERAPEUTICS CONTRIBUTION TO THE PREPARATION OF THE NEW DOCTOR	25	-	25	-	5	1	1	Basic Medical Sciences II
PHYSICAL MEDICINE & REHABILITATION	25	-	25	-	5	1	1	Surgery
GERIATRIC MEDICINE AND GERONTOLOGY	25	-	25	-	5	1	1	Internal Medicine II
FUNCTIONAL UROLOGY	25	-	25	-	5	1	1	Clinical Laboratories
PAEDIATRIC SURGERY	25	-	25	-	5	1	1	Paediatrics and Obstetrics-Gynaecology
NEUROPSYCHIATRY	25	-	25	-	5	1	1	Internal Medicine II

#### 5<sup>th</sup> YEAR – 9<sup>th</sup> AND 10<sup>th</sup> 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	10	8	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 & Surgery

6<sup>th</sup> YEAR – 11<sup>th</sup> AND 12<sup>th</sup> 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 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> 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» - 2<sup>nd</sup> semester – Prerequisite course of «Clinical Skills I»

«Clinical Skills I» - 3<sup>rd</sup> semester – Prerequisite course of « Clinical Skills II»

«Clinical Skills II» - 4<sup>th</sup> 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

## Course Outlines

### 1<sup>st</sup> Semester

#### COURSE OUTLINE MED\_111

##### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MD_111	<b>SEMESTER OF STUDIES</b>	1st
<b>COURSE TITLE</b>	BIOLOGY I		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		3	7
Laboratory work/tutorials/small group teaching		3	
<b>COURSE TYPE</b>	<ul style="list-style-type: none"> <li>· General knowledge</li> <li>· Scientific area</li> </ul>		
<b>PREREQUISITE COURSES:</b>	None  .		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	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".		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/modules/course_description/?course=MED800">https://eclass.upatras.gr/modules/course_description/?course=MED800</a>		

##### 2. LEARNING OUTCOMES

### 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

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.

## 3. 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

## 4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Lectures, tutorials, laboratory work, small group teaching
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	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.	
TEACHING ORGANIZATION	<b>Activity</b>	<b>Semester's work load</b>
	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
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>196 (/7 = 28)</b>
STUDENT ASSESSEMENT	<ol style="list-style-type: none"> <li>Final exams (75%), include: <ul style="list-style-type: none"> <li>Multiple choice, matching or true-false tests with short justification</li> <li>Short Essay questions, including questions of critical thinking</li> <li>Problem-based questions, including clinically relevant problems</li> </ul> </li> <li>Laboratory work evaluation (25%), includes: <ul style="list-style-type: none"> <li>A short test taken at the time of the practical.</li> </ul> </li> </ol>	

	<ul style="list-style-type: none"> <li>o A lab report on experimental data and evaluation of the results of each practical.</li> <li>o A literature essay relevant to the “small group teaching” topic.</li> </ul>

#### **5. RECOMMENDED LITERATURE**

1. Essential Cell Biology, 3<sup>rd</sup> Edition, by Alberts et al, BROKEN HILL Publishers, Greek translation, ISBN: 978-9963-258-27-7
2. The Cell, a molecular approach, 5<sup>th</sup> edition, G.M. Cooper, R.E. Hausman, Greek translation, Academic Publishers Basdra and co, ISBN: 978-960-99895-8-9
3. “Laboratory protocols and resources” booklet, authored by faculty members of the Lab. of General Biology, U. of Patras Publications Centre, Patras.
4. “Small group teaching” booklet, authored by faculty members of the Lab. of General Biology, U. of Patras Publications Centre, Patras.



## COURSE OUTLINE MED\_121

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_121	<b>SEMESTER OF STUDIES</b>	1 <sup>st</sup>
<b>COURSE TITLE</b>	BIOCHEMISTRY I		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, seminars and laboratory work		8	7
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	General Background		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek, English (optional)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED807/">https://eclass.upatras.gr/courses/MED807/</a> <a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=5">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=5</a>		

### 2. LEARNING OUTCOMES

<b>Learning outcomes</b> <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> <i>Consult Appendix A</i> <ul style="list-style-type: none"> <li>· Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</li> <li>· Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</li> <li>· Guidelines for writing Learning Outcomes</li> </ul>
---

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.
5. 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?*

<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*

### 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, equivalence 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, FADH<sub>2</sub>)

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 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 ( $\text{Na}^+/\text{K}^+\text{ATPase}$ )

#### **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**

6. 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.
7. 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

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures, group tutorials with PBLs and laboratory exercises	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to e-class	
<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>	<b>Activity</b>	<b>Semester workload</b>
	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
	<b>Total (hours)</b>	<b>175</b>
<b>STUDENT ASSESSEMNT</b> <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>	Written examination (85% of the final grade) which includes: 8. Multiple choice questions 9. Questions on the analysis of clinical cases 10. Questions combining theory and laboratory data analysis Reports of laboratory classes (15% of the final grade), evaluation includes: 11. Knowledge of the theory related to the experiments 12. Quality and validity of experimental results. 13. Data interpretation and conclusion	

<i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	
--	--

## **5. RECOMMENDED LITERATURE**

- |   |
|---|
| <ol style="list-style-type: none"><li>14. Berg J.M., Tymoczko J.L. and Stryer L. Biochemistry 8<sup>th</sup> edition, 2015 W.H. Freeman and Company.</li><li>15. Devlin T.M. Textbook of Biochemistry with Clinical Correlations 7th Edition, Wiley-Liss.</li></ol> |
|---|

# COURSE OUTLINE MED\_131

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_131	<b>SEMESTER OF STUDIES</b>	1 <sup>o</sup>
<b>COURSE TITLE</b>	MEDICAL PHYSICS		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and Tutorials		6	7
<b>COURSE TYPE</b>	Scientific Course		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	(course) <a href="https://eclass.upatras.gr/courses/MED853/">https://eclass.upatras.gr/courses/MED853/</a> (practical) <a href="https://eclass.upatras.gr/courses/MED813/">https://eclass.upatras.gr/courses/MED813/</a>		

## 2. LEARNING OUTCOMES

Learning outcomes
<p>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.</p> <p>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.</p>

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

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

### 3. 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).

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures and laboratory work, face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Specialized software for biomedical data statistical analysis Use of the e-class platform for the dissemination of class-material and communication with the tutor	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	39
	Tutorials	12
	Practicals	6
	Preparation of practical projects	45
	Self-study	73
	<b>Total</b>	<b>175</b>
<b>STUDENT ASSESSEMENT</b>	Written examination Short response questions Problem solving Practical project	

#### 5. RECOMMENDED LITERATURE

(Greek language)

Textbooks:

- "Medical Physics" by Evangelos Georgiou, P.X. Paschalis Publications.
- "Physics in Biology and Medicine" by Paul Davidovits, Parisian Scientific Publications S.A. Athens.

Supplementary educational material:

- Lecture Notes and Presentations

- Study Guides for Laboratory and Tutorial Exercises

# COURSE OUTLINE MED\_151

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_151	<b>SEMESTER OF STUDIES</b>	FIRST
<b>COURSE TITLE</b>	MEDICAL INFOMATICS		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, seminars and laboratory work		4	5
<b>COURSE TYPE</b>	Background		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Available also in English for Erasmus+ studies students.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=7">http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=7</a>		

## 2. LEARNING OUTCOMES

Learning outcomes
<p>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.</p> <p><b>Methodology</b></p> <p>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:</p> <ol style="list-style-type: none"> <li>1. database creation software (Microsoft Access),</li> <li>2. Medical image processing software (Analyze, Image Pro, ImageJ, Fiji),</li> <li>3. software for statistical processing of medical &amp; biological data (SPSS, GraphPad Prism),</li> <li>4. decision tree software (DATA 3.0), and</li> </ol>

#### 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

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Lectures and tutorials in a face to face manner.
-----------------	--

<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Specialized image processing and analysis software, database creation, decision tree creation. Support Learning through the e-class e-class platform	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	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
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>125 hours (total student work-load)</b>
<b>STUDENT ASSESSEMNT</b>	Written final exam includes: - Evaluation of theory data - solving problems related to information management issues	

## 5. RECOMMENDED LITERATURE

1. "MEDICAL INFORMATICS" by Georgios Nikiforidis. Medical Publications LITSAS.
2. "BIOINFORMATICS" by A.D. Baxevanis and B.F.F. Quellette. Parisian Scientific Publications S.A. Athens.

# COURSE OUTLINE MED\_161

## 1. GENERAL

SCHOOL	School of Medicine		
DEPARTMENT	Internal Medicine		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_161	SEMESTER OF STUDIES	A
COURSE TITLE	Introduction in Clinical care - disease prevention – Primary care - First Aid		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
LECTURES		3	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)	<a href="http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=6">http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=6</a>		

## 2. LEARNING OUTCOMES

Learning outcomes
<p>The course " Introduction in Clinical care - disease prevention – Primary care - First Aid " 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 health interest in relation to the clinical practice of medicine. The courses are conducted by clinicians in 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 child-patient. The course also refers to modern health systems and especially, primary health system in Greece, the importance of prevention in medicine and the role of the modern doctor in the comprehensive handling of health issues in the family and the community. Several common health issues are discussed, including indications and problems of vaccination, blood transfusion and</p>

organ transplantation, how to tackle the terminally ill patient and, finally, the ethical principles that govern contemporary clinical practice. In parallel the course addresses the principles of basic of first aid procedures.

Following successful completion of this course the student is expected to:

- Have understood core points in medical history and physical examination and 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 of health care for the terminally ill, especially at home and the community.
- Understand the importance of interdisciplinary cooperation and appropriate referral of patients.
- Understand the principles underlying vaccination, 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*

### 3. COURSE CONTENT

The course includes:

- Principles of Medical Science / Physician characteristics.
- Principles of medical history / physical examination.
- Characteristics of patients with acute / chronic disease.
- Characteristics of the pediatric patient.
- Characteristics of the female patient.
- Characteristics of the psychiatric patient
- Health systems and Primary care.
- Preventive Medicine.
- Principles of vaccination, transfusion and transplantation.
- Health advance, treatment and supportive/palliative care.
- Oncologic and terminally ill patient.
- Principles of basic First Aid procedures
- Principles of ethics – ethics.

<ul style="list-style-type: none"> <li>Evidence Based Medicine – Critical Appraisal</li> </ul>
--

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	42
	Hours of private study	70
	Total number of hours for the Course	112 hours (total student workload)
<b>STUDENT ASSESSEMENT</b>	Written Examination at the End of Semester in Greek with multiple choice or open-type questions	

#### 5. RECOMMENDED LITERATURE

<ul style="list-style-type: none"> <li>Bickley, L. S., Szilagy, P. G., &amp; Bates, B. (2007). <i>Bates' guide to physical examination and history taking</i>. Philadelphia: Lippincott Williams &amp; Wilkins.</li> <li>Macleod, J., Munro, J. F., Edwards, C. R. W., &amp; University of Edinburgh. (1990). <i>Macleod's clinical examination</i>. Edinburgh: Churchill Livingstone.</li> <li>Family Medicine: Ambulatory Care and Prevention. MARK B. MENGEL, PETER L. SCHWIEBERT, Parisian Editions. Journal of Family Medicine and Primary Care - <a href="https://journals.lww.com/jfmppc/pages/default.aspx">https://journals.lww.com/jfmppc/pages/default.aspx</a></li> <li>E learning material / student notes as uploaded in e-class</li> </ul>
---



## 2<sup>nd</sup> Semester

### COURSE OUTLINE MED\_211

#### 1. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MED_211	SEMESTER OF STUDIES	SECOND
COURSE TITLE	BIOLOGY II		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures,		3	
Laboratory work/tutorials/teaching in small groups		3	
COURSE TYPE	· 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)	<a href="https://eclass.upatras.gr/modules/course_description/?course=MED802">https://eclass.upatras.gr/modules/course_description/?course=MED802</a>		

#### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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</p>

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**

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.

### **3. 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

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

TEACHING METHOD.	Lectures, tutorials, laboratory work face to face and teaching in small groups	
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 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.	
TEACHING ORGANIZATION	Activity	Semester's work load
	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)
STUDENT ASSESSEMENT	1. Final exams (75%), include: o Multiple choice or matching tests including a short	

	<p>justification of the student's answer</p> <ul style="list-style-type: none"> <li>o Essay questions</li> <li>o Problem-based questions</li> </ul> <p>2. Laboratory exercise evaluation (25%), include:</p> <ul style="list-style-type: none"> <li>o A short test report given by the students concurrently with the laboratory exercise.</li> <li>o An essay on the experimental data and evaluation of the results of the laboratory work.</li> <li>o A literature essay relevant to the "small group teaching" topic.</li> </ul>

## 5. RECOMMENDED LITERATURE

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

# COURSE OUTLINE MED\_221

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_221	<b>SEMESTER OF STUDIES</b>	2 <sup>nd</sup>
<b>COURSE TITLE</b>	BIOCHEMISTRY II		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, seminars and laboratory work		8	6
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	General Background		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek, English (optional)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED809/">https://eclass.upatras.gr/courses/MED809/</a> <a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=12">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=12</a>		

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b> <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> <i>Consult Appendix A</i> <ul style="list-style-type: none"> <li>· <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>· <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>· <i>Guidelines for writing Learning Outcomes</i></li> </ul>
--

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:**

1. Understand the basic principles of intermediary metabolism and distinguish between physiological and pathological conditions based on laboratory measurements of metabolites.
  2. Comprehend the role of surface receptors in signal transduction, regulation of gene expression and pharmacological targeting.
  3. Associate disease with the deregulation of metabolism, seek the etiology and suggest the therapeutic strategies.
  4. Understand and evaluate the contribution of nutrition in the homeostasis of intermediary metabolism, both under normal and pathological conditions.
  5. Conduct experiments during laboratory classes related to diagnosis and interpret the data.
  6. Be kept updated with new developments in the field and the international bibliography.
  7. 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.
  8. Gather and interpret relevant information within their field of knowledge and to make decisions after consideration of relevant social, scientific and ethical issues.
16. 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*

### 3. 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

#### 4. 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

#### 5. 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.

#### 6. 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

Measurements of glucose and amylase in serum.

Measurement of total cholesterol in serum and lipoprotein electrophoresis.

Measurement of lactate dehydrogenase Vmax and its conversion in enzymatic units (U/L)

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures, group tutorials with PBLs and laboratory exercises	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to e-class	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures 3h/week	39
	Tutorials, 3h for every week	39
	Laboratory classes	24
	Data analysis, interpretation and lab report	8
	Homework	40
	<b>Total (hours)</b>	<b>150</b>
<b>STUDENT ASSESSEMENT</b> <i>Description of the evaluation procedure</i>  <i>Language of evaluation, methods of evaluation, summative or</i>	Written examination (85% of the final grade) which includes: <ul style="list-style-type: none"> <li>• Multiple choice questions</li> <li>• Questions on the analysis of clinical cases</li> <li>• Questions combining theory and laboratory data analysis</li> </ul>	



<p><i>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>	<ul style="list-style-type: none"> <li>• Reports of laboratory classes (15% of the final grade), evaluation includes:</li> <li>• Knowledge of the theory related to the experiments</li> <li>• Quality and validity of experimental results</li> <li>• Data interpretation and conclusion</li> </ul>
--	--

## 5. RECOMMENDED LITERATURE

Berg J.M., Tymoczko J.L. and Stryer L. Biochemistry 8<sup>th</sup> edition, 2015 W.H. Freeman and Company.  
 Baynes J.W., Dominiczak M.H. Medical Biochemistry, 4<sup>th</sup> edition, Saunders (2014).

# COURSE OUTLINE MED\_231

## 1. GENERAL

SCHOOL		HEALTH SCIENCES	
DEPARTMENT		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)		<a href="https://eclass.upatras.gr">https://eclass.upatras.gr</a>	

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<ul style="list-style-type: none"> <li> <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> </li> </ul>
<b>General Abilities</b>
<p>Search, analyse and present data and information, using the appropriate technologies.</p> <p>Decision making</p> <p>Independent or team work</p>

## 3. 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 bone 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).

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Lectures, tutorials and laboratory work face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Work load</b>
	Lectures	42
	Tutorials/Laboratory exercises.	42
	Hours of private study	66
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>150hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b>	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.	

#### 5. RECOMMENDED LITERATURE

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

# COURSE OUTLINE MED\_241A

## 1. GENERAL

<b>SCHOOL</b>		HEALTH SCIENCES	
<b>DEPARTMENT</b>		MEDICINE	
<b>LEVEL OF COURSE</b>		UNDERGRADUATE	
<b>COURSE CODE</b>		MED_241A	<b>SEMESTER OF STUDIES</b> SECOND
<b>COURSE TITLE</b>		HISTOLOGY I	
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, tutorials/laboratory exercises.		1 (lect.) 2(lab.)	2
<b>COURSE TYPE</b>		BASIC KNOWLEDGE	
<b>PREREQUISITE COURSES:</b>		None	
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>		Greek.	
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>		No	
<b>COURSE WEBPAGE (URL)</b>		<a href="https://eclass.upatras.gr">https://eclass.upatras.gr</a>	

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
By the end of this course the student will have acquired:
<ol style="list-style-type: none"> <li>1. <i>Understanding and thorough knowledge of the normal structure of human cells and tissues at the microscopic ultrastructural and molecular level</i></li> <li>2. <i>The ability to correlate normal structure and morphology with normal cell and tissue function (physiology)</i></li> <li>3. <i>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)</i></li> <li>4. <i>The ability to apply this knowledge in order to understand mechanisms of human diseases.</i></li> <li>5. <i>The appropriate background information and knowledge that bridges basic science to clinical science (pathology)</i></li> <li>6. <i>The ability to analyze and synthesize acquired knowledge with clinical information in certain clinical problem settings (Problem-Based Learning)</i></li> </ol>
<b>General Abilities</b>
<p>Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above):</p> <p><i>Searching, analysis and synthesis of facts and information, as well as using the necessary technologies</i></p> <p><i>Adaptation to new situations</i></p> <p><i>Decision making</i></p> <p><i>Autonomous (Independent) work</i></p> <p><i>Group work</i></p> <p><i>Exercise of criticism and self-criticism</i></p> <p><i>Promotion of free, creative and inductive thinking</i></p>

### 3. 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
  - 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 Supporting cells, Antigen - Presenting Cells.
  - Lymphatic vessels.
  - Diffuse lymphatic tissue and nodules.
  - Lymph nodes.
  - Thymus.
  - Spleen.
  - Clinical Correlations

#### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b>	Lectures, tutorials and laboratory work face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, virtual microscopy) 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>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	14
	Tutorials/Laboratory exercises.	28
	Hours of private study	18
	<b>Total number of hours for the Course</b>	<b>60 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b>	<p>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>The examination documents are retained for 5 years and are readily available to students.</p>	

#### 5. 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..



# COURSE OUTLINE MED\_241B

## 1. GENERAL

SCHOOL		HEALTH SCIENCES	
DEPARTMENT		MEDICINE	
LEVEL OF COURSE		UNDERGRADUATE	
COURSE CODE	MED_241B	SEMESTER OF STUDIES	SECOND
COURSE TITLE		EMBRYOLOGY I	
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures, tutorials/laboratory exercises		1(lect.) 2(lab.)	2
COURSE TYPE		BASIC KNOWLEDGE	
PREREQUISITE COURSES:		None	
TEACHING AND ASSESSMENT LANGUAGE:		Greek.	
THE COURSE IS OFFERED TO ERASMUS STUDENTS		No	
COURSE WEBPAGE (URL)		<a href="https://eclass.upatras.gr">https://eclass.upatras.gr</a>	

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>By the end of this course the student will have acquired:</p> <ol style="list-style-type: none"> <li>1. <i>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.</i></li> <li>2. <i>Understanding and thorough knowledge of the birth defects/congenital malformations</i></li> <li>3. <i>A logical framework for understanding human anatomy</i></li> <li>7. <i>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)</i></li> <li>4. <i>The ability to apply this knowledge in order to understand mechanisms of human disease.</i></li> <li>5. <i>The appropriate background information and knowledge that bridges basic science to clinical science (obstetrics, pediatrics etc)</i></li> <li>6. <i>The ability to analyze and synthesize acquired knowledge with clinical information in certain clinical problem settings (Problem-Based Learning)</i></li> </ol>
<b>General Abilities</b>
<p>Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above):</p> <p><i>Searching, analysis and synthesis of facts and information, as well as using the necessary technologies</i></p>

*Adaptation to new situations*  
*Decision making*  
*Autonomous (Independent) work*  
*Group work*  
*Exercise of criticism and self-criticism*  
*Promotion of free, creative and inductive thinking*

### 3. COURSE CONTENT

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 by the 12<sup>th</sup> week. Also by the 12<sup>th</sup> 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 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 ribs, 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.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures, face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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. .	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	14
	Laboratory	28
	Hours of private study	18
	<b>Total number of hours for the Course</b>	<b>60 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b>	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 .  The examination documents are retained for 5 years and are readily available to students.	

## 5. RECOMMENDED LITERATURE

1. Developing Human: Clinically oriented embryology. Moore Keith L., Persaud T.V.N. Broken Hill Publishers Ltd . First edition, 2009
2. Human Embryology and Developmental Anatomy Carlson. Publisher: Books Parisianou. 4<sup>th</sup> edition. 2013 .

# COURSE OUTLINE MED\_251

## 1. GENERAL

<b>SCHOOL</b>		HEALTH SCIENCES	
<b>DEPARTMENT</b>		MEDICAL SCHOOL	
<b>COURSE LEVEL</b>		BACHELOR OF SCIENCE	
<b>COURSE CODE</b>	MED251	<b>SEMESTER</b>	second
<b>COURSE TITLE</b>	PHYSIOLOGY I		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>HOURS OER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		5	6
Practical laboratories, tutorials (clinical problem solving)		3	
<b>COURSE TYPE</b>	Field of science (Physiology) Development of analytical and synthetic cognitive abilities		
<b>PREREQUISITES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED863/">https://eclass.upatras.gr/courses/MED863/</a>		

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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:</p> <ul style="list-style-type: none"> <li>• Understand the importance of homeostasis, excitability, cell signaling and physiological functioning of specific human systems (cardiovascular, muscular, respiratory, blood)</li> <li>• Be acquainted with the basic principles of electrocardiography and understand the measurement of respiratory function</li> <li>• 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.</li> <li>• 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)</li> <li>• Be able to process novel complex problems related to pathophysiological conditions</li> <li>• Develop skills for acquiring knowledge needed for postgraduate studies with a high degree of autonomy</li> </ul>
<b>General abilities</b>
<p><i>Search, analyze and synthesize data and information, using the necessary technologies.</i></p> <p><i>Adapting to new situations.</i></p> <p><i>Decision making.</i></p> <p><i>Independent work.</i></p> <p><i>Group work.</i></p> <p><i>Work in international environment.</i></p> <p><i>Work in interdisciplinary environment.</i></p> <p><i>Criticism and self-criticism.</i></p>

Promoting free and creative thinking.

### 3. COURSE CONTENT

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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Direct (face to face)	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	<ol style="list-style-type: none"> <li>1. Use of E-class platform</li> <li>2. Use of computer software in classroom teaching and in laboratory practice</li> </ol>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	65
	Laboratory practice	9
	Clinical problem solving	3
	Computer simulation	3
	Homework	70
	<b>Total course hours (25 hours of work-load per ECTS credit)</b>	<b>150 hours</b>
<b>STUDENT ASSESSEMENT</b>	Language: Greek  Final written examination with multiple choice questions, matching exercises, short answer questions, etc.	

### 5. RECOMMENDED LITERATURE

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

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

# COURSE OUTLINE MED\_261

## 1. GENERAL

<b>SCHOOL</b>	Medical Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Pre graduate		
<b>COURSE CODE</b>	MED_261	<b>SEMESTER OF STUDIES</b>	2 <sup>nd</sup>
<b>COURSE TITLE</b>	INTRODUCTION TO CLINICAL SKILLS- FIRST AID		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		3	2
<b>COURSE TYPE</b>	Background, Skills development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

Learning outcomes
<p>The aim of this training module, lasting four semesters, from the 2<sup>nd</sup> to the 5<sup>th</sup> semester, 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:</p> <ol style="list-style-type: none"> <li>1. Acquisition of knowledge – comfort in the professional approach of the patient. Technique of obtaining medical history / physical examination.</li> <li>2. Recording / Oral presentation of medical history</li> <li>3. Pediatric / Psychiatric medical history.</li> <li>4. Understanding the basic core of the commonly used laboratory and other paraclinical tests used in routine clinical practice.</li> <li>5. Read / evaluation of medical records – medical history / medical records.</li> <li>6. Knowledge / routine medical operations execution.</li> <li>7. Medical emergency / first aid.</li> </ol>



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**

- Autonomous work
- Search, analyze, and synthesize data and information

### **3. COURSE CONTENT**

- Medical history content
  - 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

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

TEACHING METHOD		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<b>Activity</b>	<b>Semester workload</b>
	Lectures	14
	Clinical training	8
	Studying	28
	<b>Total course hours (25 hours of work-load per ECTS credit)</b>	<b>50 hours</b>
STUDENT ASSESSEMENT	Writing examination	

## 5. RECOMMENDED LITERATURE

Bates' Guide to Physical Examination and History-Taking.

### 3<sup>rd</sup> Semester

#### COURSE OUTLINE MED\_311

##### 1. GENERAL

<b>SCHOOL</b>	SCHOOL OF HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDRGRADUATE		
<b>COURSE CODE</b>	MED311	<b>SEMESTER OF STUDIES</b>	3 <sup>d</sup>
<b>COURSE TITLE</b>	ANATOMY II		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES (4hrs) AND LABORATORY EXERCISES(3 hrs)		7	8
<b>COURSE TYPE</b>	BASIC KNOWLEDGE		
<b>PREREQUISITE COURSES:</b>	NONE		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED883/">https://eclass.upatras.gr/courses/MED883/</a>		

##### 2. LEARNING OUTCOMES

###### Learning outcomes

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:

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

### 3. 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 chyli- 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

1. The thorax.
2. The abdomen.
3. The pelvis –perineum.

4. The cardiovascular system.
5. The respiratory system.
6. The digestive system.
7. The endocrine system.
8. The urinary system. (Clinical and Surgical Anatomy)
9. The male genital system. (Clinical and Surgical Anatomy)
10. The female genital system. (Clinical and Surgical Anatomy)

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures, seminars and laboratory work face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	<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>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	56
	Seminars and laboratory exercises.	42
	Review project in Anatomy topics	optional
	Hours of private study	102
	<b>Total work load</b>	<b>200 hours</b>
<b>STUDENT ASSESSEMENT</b>	<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>	

#### 5. RECOMMENDED LITERATURE

Clinical Anatomy R. Snell  
Clinical Anatomy Moore-Dalley-Agur





# COURSE OUTLINE MED\_321A

## 1. GENERAL

SCHOOL		HEALTH SCIENCES		
DEPARTMENT		MEDICINE		
LEVEL OF COURSE		UNDERGRADUATE		
COURSE CODE		MED_321A	SEMESTER OF STUDIES	THIRD
COURSE TITLE		HISTOLOGY II		
INDEPENDENT TEACHING ACTIVITIES			TEACHING HOURS PER WEEK	ECTS CREDITS
Lectures, tutorials/laboratory exercises.			1(lect.) 3 (lab.)	3
COURSE TYPE			BASIC KNOWLEDGE	
PREREQUISITE COURSES:			None	
TEACHING AND ASSESSMENT LANGUAGE:			Greek.	
THE COURSE IS OFFERED TO ERASMUS STUDENTS			No	
COURSE WEBPAGE (URL)			<a href="https://eclass.upatras.gr">https://eclass.upatras.gr</a> MED943	

## 2. LEARNING OUTCOMES

### Learning outcomes

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.

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

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)*

### 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*  
*Exercise of criticism and self-criticism*  
*Promotion of free, creative and inductive thinking*

### 3. COURSE CONTENT

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. basement 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 posterior lobe (neurohypophysis). Hormones of the pituitary gland.
  - Hypothalamus.
  - Pineal gland.
  - Thyroid gland. Thyroid follicle and follicular epithelium. Colloid. Thyroid hormones and calcitonin - production, function and regulation.
  - Parathyroid glands. Principal and oxyphil cells. PTH function.
  - Adrenal glands. Adrenal Cortex - zonation, hormones, function and regulation. Adrenal medulla - cells, function and regulation. Blood supply.
- 7. Male reproductive system.
  - Overview.
  - Testis. Development. Structure and function.
  - Testis – Spermatogenesis.
  - Testis - seminiferous tubules. Sertoli cells.
  - Testis - Intratesticular ducts.
  - Excurrent duct system. Epididymis. Ductus deferens.
  - Seminal vesicles.
  - Prostate gland.
  - Penis.
  - 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.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures, tutorials and laboratory work face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, virtual microscopy) 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>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	14
	Tutorials/Laboratory exercises.	42
	Hours of private study	34
	<b>Total number of hours for the Course</b>	<b>90 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b>	<p>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>The examination documents are retained for 5 years and are readily available to students.</p>	

#### 5. 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.

# COURSE OUTLINE MED\_321B

## 1. GENERAL

<b>SCHOOL</b>		HEALTH SCIENCES	
<b>DEPARTMENT</b>		MEDICINE	
<b>LEVEL OF COURSE</b>		UNDERGRADUATE	
<b>COURSE CODE</b>	MED_321B	<b>SEMESTER OF STUDIES</b>	THIRD
<b>COURSE TITLE</b>	EMBRYOLOGY II		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, /laboratory tutorials.		1 (lect.), 2 (lab)	2
<b>COURSE TYPE</b>		BASIC KNOWLEDGE	
<b>PREREQUISITE COURSES:</b>		None	
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>		Greek.	
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>		No	
<b>COURSE WEBPAGE (URL)</b>		<a href="https://eclass.upatras.gr">https://eclass.upatras.gr</a> MED943	

## 2. LEARNING OUTCOMES

### Learning outcomes

The objective of **Human Embryology II** course is to help the student understand how the organs are formed. Medical embryology traditionally covers not only the normal human development but also the defects in embryonic development. Is of practical value in helping to understand the causes of variation in Human Structure and contributes to the understanding of Congenital Defects-Malformations.

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

- Understanding and thorough knowledge of the morphogenesis process based on underlying molecular, genetic, cellular and tissue events*
- Understanding the structural sequence of development of the body and its various organ systems*
- 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*
- 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.*
- The ability to apply this knowledge in order to understand mechanisms of human disease.*
- The appropriate background information and knowledge that bridges basic science to clinical science (obstetrics, pediatrics etc)*
- 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 developed 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*

*Exercise of criticism and self-criticism*

*Promotion of free, creative and inductive thinking*

### 3. COURSE CONTENT

#### **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 Cavity, 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 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 Para-follicular 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.

The development of Hypophysis or Pituitary Gland (from two different parts) 1. Diencephalon extension the Infundibulum (Ectodermal)

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 Colon).

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

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.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures, face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, virtual microscopy) 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>.</p>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	14
	Lab tutorials	28
	Hours of private study	18
	<b>Total number of hours for the Course</b>	<b>60 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b>	<p>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>The examination documents are retained for 5 years and are readily available to students.</p>	

#### 5. RECOMMENDED LITERATURE

1.	Developing Human: Clinically oriented embryology. Moore Keith L., Persaud T.V.N. Broken Hill Publishers Ltd . First edition, 2009
2.	Human Embryology and Developmental Anatomy Carlson. Publisher: Books Parisianou. 4 <sup>th</sup> edition. 2013



# COURSE OUTLINE MED\_331

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_331	<b>SEMESTER OF STUDIES</b>	3 <sup>o</sup>
<b>COURSE TITLE</b>	BIOCHEMISTRY III		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
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>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	General Background		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek, English (optional)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/modules/document/?course=MED810">https://eclass.upatras.gr/modules/document/?course=MED810</a>		

## 2. 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 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 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:**

1. 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.
2. Recognize fine, yet essential, differences in the process of protein synthesis between bacteria and humans and how widely used antibiotics affect each system.
3. 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.
4. Understand the importance of epigenetic changes in the expression of genes responsible for metabolism
5. Recognize the importance of the immune system and the orchestration of the immune response.
6. Conduct laboratory-based experiments, utilized for diagnoses and interpret the data.
7. Be kept updated with new developments in the field and the international bibliography.
8. 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.
9. 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.
10. 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*

### **3. 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 HS-adenosyl methionine, as a means of methylation.

## **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 EUKARYOTES**

- 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.

## **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures, group tutorials with PBLs and laboratory exercises	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to e-class	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures 3h/week	39
	Tutorials, 2h for every week	26
	Laboratory classes	39
	Data analysis, interpretation and lab report	8
	Home work	38
	<b>Total (hours)</b>	<b>150</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written examination (85% of the final grade) which includes: <ol style="list-style-type: none"> <li>1. Multiple choice questions</li> <li>2. Questions on the analysis of clinical cases</li> <li>3. Questions combining theory and laboratory data analysis</li> </ol> Reports of laboratory classes (15% of the final grade), evaluation includes: <ol style="list-style-type: none"> <li>1. Knowledge of the theory related to the experiments</li> <li>2. Quality and validity of experimental results</li> <li>3. Data interpretation and conclusion</li> </ol>	

## 5. RECOMMENDED LITERATURE

1. Berg J.M., Tymoczko J.L. and Stryer L. Biochemistry 8<sup>th</sup> edition, 2015 W.H. Freeman and Company.
2. Baynes J.W., Dominiczak M.H. Medical Biochemistry, 4<sup>th</sup> edition, Saunders (2014). Biochemistry L. Stryer, 8<sup>th</sup>

## COURSE OUTLINE MED\_341

### 1. 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)		<a href="https://eclass.upatras.gr/courses/MED847/">https://eclass.upatras.gr/courses/MED847/</a>	

### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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:</p> <ul style="list-style-type: none"> <li>• Understand the importance of physiological functioning of specific human systems (renal, gastrointestinal, endocrine, reproductive)</li> <li>• 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.</li> <li>• 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)</li> <li>• Be able to process novel complex problems related to pathophysiological conditions</li> <li>• Develop skills for acquiring knowledge needed for postgraduate studies with a high degree of autonomy</li> </ul>
<b>General abilities</b>
<p><i>Search, analyze and synthesize data and information, using the necessary technologies.</i></p> <p><i>Adapting to new situations.</i></p> <p><i>Decision making.</i></p> <p><i>Independent work.</i></p> <p><i>Group work.</i></p> <p><i>Work in international environment.</i></p> <p><i>Work in interdisciplinary environment.</i></p> <p><i>Criticism and self-criticism.</i></p> <p><i>Promoting free and creative thinking.</i></p>

### 3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

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

#### 5. RECOMMENDED LITERATURE

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

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

Introduction to Human Physiology, 8<sup>th</sup> 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/>

# COURSE OUTLINE MED\_351

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_351	<b>SEMESTER OF STUDIES</b>	3rd
<b>COURSE TITLE</b>	CLINICAL SKILLS I		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
TEACHING AND CLINICAL TRAINING		3	3
<b>COURSE TYPE</b>	SKILLS DEVELOPMENT		
<b>PREREQUISITE COURSES:</b>	1. INTRODUCTION TO CLINICAL SKILLS – FIRST AID		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=19">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=19</a>		

## 2. LEARNING OUTCOMES

Learning outcomes
<p>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:</p> <ol style="list-style-type: none"> <li>1. Acquisition of knowledge – comfort in the professional approach of the patient. Technique of obtaining medical history / physical examination.</li> <li>2. Recording / Oral presentation of medical history</li> <li>3. Pediatric / Psychiatric medical history.</li> <li>4. Understanding the basic core of the commonly used laboratory and other paraclinical tests used in routine clinical practice.</li> <li>5. Basic differential diagnosis</li> <li>6. Read / evaluation of medical records – medical history / medical records.</li> <li>7. Knowledge / routine medical operations execution.</li> <li>8. Medical emergency / first aid.</li> <li>9. Understanding of social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine.</li> <li>10. Understanding the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.</li> </ol>

## 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*

## 3. 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.

## 4. TEACHING AND LEARNING METHODS - ASSESSMENT

### TEACHING METHOD

Face to face Lectures and clinical exercise (in teams of 8-10 students).



<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Autonomous or group exercises of patient based differential diagnosis search in internet medical databases (PubMed)	
<b>TEACHING ORGANIZATION</b>	<b><i>Activity</i></b>	<b><i>Semester workload</i></b>
	Lectures	15
	Clinical exercise (history and clinical examination)	27
	Independent study	38
	<b><i>Sum</i></b>	<b><i>80</i></b>
<b>STUDENT ASSESSEMENT</b>	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.	

## 5. RECOMMENDED LITERATURE

Barbara Bates: Guide to physical examination and history

## 4<sup>th</sup> Semester

### COURSE OUTLINE MED\_411

#### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_411	<b>SEMESTER OF STUDIES</b>	4 <sup>th</sup> (spring semester)
<b>COURSE TITLE</b>	NEUROSCIENCE		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, seminars and laboratory work		4 (14 weeks)	6
		3 (14 weeks)	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		Total: 7 (14 weeks)	6
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>	NONE		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED845/">https://eclass.upatras.gr/courses/MED845/</a> <a href="https://eclass.upatras.gr/courses/MED906/">https://eclass.upatras.gr/courses/MED906/</a> <a href="https://eclass.upatras.gr/courses/MED840/">https://eclass.upatras.gr/courses/MED840/</a> <a href="https://eclass.upatras.gr/courses/MED843/">https://eclass.upatras.gr/courses/MED843/</a> <a href="https://eclass.upatras.gr/courses/MED870/">https://eclass.upatras.gr/courses/MED870/</a>		

#### 2. 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 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.

#### **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*

*Team work*

*Working independently*

### 3. COURSE CONTENT

#### 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**

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Short Lectures, tutorials, ppt presentations, face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of digital presentations that are uploaded on the e-class electronic platform.	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	<b>Lectures</b> 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.	56 hours  (4 hours X 14 weeks = 56 hours)
	<b>Laboratory exercises</b> in small groups of students, which include study of a) Anatomy of spinal cord, brain stem (medulla oblongata, pons, midbrain), diencephalon (thalamus, hypothalamus, epithalamus, subthalamic 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.  <b>Tutorials</b> 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 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: 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	42 hours  (3 hours X 14 weeks= 42 hours)

	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 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.	
	Hours of private study	52 hours
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>150 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Neuroanatomy: Optional ppt presentations and clinical problem solving by the students: +1 in the grade of the final examination  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.  Minimum passing grade: 5/10  <u>Final Course Grade (FCG)</u> 1. $FCG = (G_{NEUROANATOMY} + G_{NEUROPHYSIOLOGY}) / 2$	

## 5. RECOMMENDED LITERATURE

- MAYO CLINIC, MEDICAL NEUROSCIENCES, BENARROCH et al., 1st Greek edition, Gotsis 2015.

- Clinical Neuroanatomy, Waxman St., 2013
- BERNE AND LEVY, Physiology, KOEPPEN, STANTON, 2012
- Concepts in the Science of Memory, Papatheodoropoulos K., Athens: Association of Greek Academic Libraries.  
<http://hdl.handle.net/11419/3244>
- Kesner R.P. and Martinez J.L., Neurobiology of Learning and Memory, Elsevier, 2007.



# COURSE OUTLINE MED\_420

## 1. GENERAL

<b>SCHOOL</b>		HEALTH SCIENCES	
<b>DEPARTMENT</b>		MEDICINE	
<b>LEVEL OF COURSE</b>		UNDERGRADUATE	
<b>COURSE CODE</b>	MED_420	<b>SEMESTER OF STUDIES</b>	FOURTH
<b>COURSE TITLE</b>	HYGIENE		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, seminars and laboratory work		2 (lect.) 2 (lab.)	4
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.  Essentially, the students should possess:  (a) knowledge provided through the previously taught Statistics		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED820/">https://eclass.upatras.gr/courses/MED820/</a>		

## 2. 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 Epidemiology, 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.</p> <p>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.</p> <p>Finally, the aim of the course is to understand from the students the importance of Epidemiology and Hygiene in modern medicine and the evolution of medicine in Preventive Medicine which can be a distinct scientific field / occupation</p> <p>The lesson includes the following sections:</p> <p>Introduction to the concepts of Public Health, Prevention and Health Promotion. Environmental hygiene. Introduction to environmental toxicology. Hygiene of water. Food hygiene. Pollution of the atmosphere. Climate. Elements of Demographic Medicine (demographic collection, mortality, birth rate, population structure). Introduction to Epidemiology (descriptive Epidemiology, morbidity measurement, general epidemiology of infectious diseases, epidemiological standards, analytical epidemiology, types of epidemiological studies, molecular and genetic 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</p> <p>Upon successful completion of the course the student will be able to:</p>

- 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

### 3. 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).

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures, seminars and laboratory work face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures (2 conduct hours per week x 13 weeks)	26
	Laboratory work (2 conduct hours per week x 13 weeks)	26
	Final examination (3 conduct hours for Synthetic Organic Chemistry)	3
	Hours for private study of the student and preparation of home-works (3 per semester),	
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>120 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b>	<ol style="list-style-type: none"> <li>1. 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. Minimum passing grade: 5.</li> </ol>	

### 5. RECOMMENDED LITERATURE

3. Hygiene: M. Vayona, 2009, University Studio Press
4. Epidemiology, Gordis, Translation A.Vantarakis, 2017
5. Lecturers Notes. A. Vantarakis, E. Gerastopoulou, M. Leotsinidis

# COURSE OUTLINE MED\_431

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_431	<b>SEMESTER OF STUDIES</b>	4 <sup>th</sup> (spring semester)
<b>COURSE TITLE</b>	PHARMACOLOGY I		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, seminars and laboratory work		3	6
		2	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		Total:	6
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (to greek speaking students)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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 purpose of this course is to introduce the medical student to the principles of Pharmacology (basic and clinical) and Toxicology.

### 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

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

### 3. COURSE CONTENT

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.	
--	--

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Direct (face to face).	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Specialized software	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	23 h
	Tutorials	10 h
	Studying	69 h
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>102 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b> <i>Description of the evaluation procedure</i>	Written final examination (50%) which includes: - Multiple choice questions with a brief explanation.	

*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*

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

## **5. RECOMMENDED LITERATURE**

Goodman & Gillman's Manual of Pharmacology and Therapeutics, 2<sup>nd</sup> version, 2014

# COURSE OUTLINE MED\_441

## 1. GENERAL

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

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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.</p> <p>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.</p> <p>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.</p> <p>At the end of the educational process the students:</p> <ul style="list-style-type: none"> <li>• Understand the role of the immune system in disease protection and pathogenesis of immunodeficiency or autoimmune disorders.</li> <li>• They are trained to communicate effectively using the correct terms describing the immune response and its mechanisms of regulation.</li> <li>• They learn about assays and techniques employed in research and clinical laboratories to develop technical understanding and clinical interpretation of results.</li> <li>• They develop scientific behavior and acquire cognitive skills in solving the clinical problem.</li> </ul>
<b>General Abilities</b>
<p>Study, analysis and synthesis of data, with the use of required technologic advances</p> <p>Decision making</p> <p>Autonomous task management</p> <p>Team working</p> <p>Generation of novel research ideas</p>

## 3. 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  $\zeta$  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.

#### **4. 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	Activity	Semester workload
	Lectures	42
	Laboratory exercises focusing on the understanding of laboratory diagnostic methods	42
	Personal Studying	66
	Total (25 hours per unit)	150



<b>STUDENT ASSESSEMENT</b>	<p>Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of:</p> <ul style="list-style-type: none"> <li>• Clinical problems, justifying the answer chosen.</li> <li>• Multiple choice questions, matching and right/wrong questions in order to evaluate students' knowledge of the theory</li> </ul>
----------------------------	---

#### 5. RECOMMENDED LITERATURE

*Greek translation of IMMUNOLOGY 2<sup>nd</sup> 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

# COURSE OUTLINE MED\_451

## 1. GENERAL

<b>SCHOOL</b>	LIFE SCIENCES		
<b>DEPARTMENT</b>	SCHOOL OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED451</b>	<b>SEMESTER OF STUDIES</b>	4th
<b>COURSE TITLE</b>	PATHOLOGY I		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		4	6
Laboratory training		3	
<b>COURSE TYPE</b>	Scientific Area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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.</p> <p>Students are introduced in the concept of clinicopathologic correlation by studying characteristic cases.</p> <p>At the end of the educational process the students:</p> <ul style="list-style-type: none"> <li>Understand the etiology, pathogenesis and clinical symptoms of the disease</li> <li>Understand the role of the Pathology Laboratory <ul style="list-style-type: none"> <li>A. In the diagnosis of diseases through analysis and correlation of clinical information with the macroscopic and microscopic changes of the affected tissue.</li> <li>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.</li> </ul> </li> <li>Are introduced in routine and advanced histologic and molecular techniques</li> <li>Understand and use medical terminology</li> <li>Demonstrate scientific behavior</li> <li>Communicate evidence-based knowledge</li> <li>Acquire cognitive skills indispensable to medical practice (observation, analysis, clinical problem solving)</li> </ul>
<b>General Abilities</b>
<p>Study, analysis and synthesis of data, with the use of required technologic advances</p> <p>Decision making</p> <p>Autonomous task management</p> <p>Team working</p> <p>Generation of novel research ideas</p>

### 3. 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.

### 4. 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	Activity	Semester workload
	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
<b>STUDENT ASSESSEMENT</b>	Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of: <ul style="list-style-type: none"> <li>• 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</li> <li>• Matching and right/wrong questions in order to evaluate students' knowledge of the theory</li> <li>• Short answer questions in order to evaluate student's understanding of the theory</li> </ul>	

## 5. 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.stritch.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>

# COURSE OUTLINE MED\_461

## 1. GENERAL

<b>SCHOOL</b>		HEALTH SCIENCES	
<b>DEPARTMENT</b>		MEDICINE	
<b>LEVEL OF COURSE</b>		UNDERGRADUATE	
<b>COURSE CODE</b>	MED_461	<b>SEMESTER OF STUDIES</b>	4th
<b>COURSE TITLE</b>	CLINICAL SKILLS II		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
TEACHING AND CLINICAL TRAINING		3	2
<b>COURSE TYPE</b>	SKILLS DEVELOPMENT		
<b>PREREQUISITE COURSES:</b>	2. INTRODUCTION TO CLINICAL SKILLS – FIRST AID  3. CLINICAL SKILLS I		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=21">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=21</a>		

## 2. LEARNING OUTCOMES

### Learning 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:

11. Acquisition of knowledge – comfort in the professional approach of the patient. Technique of 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*

### 3. 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.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face Lectures and clinical exercise (in teams of 8-10 students).	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Autonomous or group exercises of patient based differential diagnosis search in internet medical databases (PubMed)	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	12

	Clinical exercise (history and clinical examination)	30
	Independent study	18
	<b>total</b>	<b>60</b>
<b>STUDENT ASSESSEMENT</b>	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.	

## 5. RECOMMENDED LITERATURE

Barbara Bates: Guide to physical examination and history

## 5<sup>th</sup> Semester

### Mandatory courses COURSE OUTLINE MED\_451

#### 1. GENERAL

<b>SCHOOL</b>	LIFE SCIENCES		
<b>DEPARTMENT</b>	SCHOOL OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED451</b>	<b>SEMESTER OF STUDIES</b>	5th
<b>COURSE TITLE</b>	PATHOLOGY II		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		4	6
Laboratory training		3	
<b>COURSE TYPE</b>	Scientific Area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>			

#### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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.</p> <p>At the end of the educational process the students:</p> <ul style="list-style-type: none"> <li>• Understand the pathogenetic mechanisms of the disease from the molecular to the microscopic and macroscopic level</li> <li>• 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).</li> <li>• 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).</li> <li>• Understand and use medical terminology</li> <li>• Demonstrate scientific behavior</li> <li>• Acquire cognitive skills indispensable to medical practice (observation, analysis, clinical problem solving)</li> </ul>
<b>General Abilities</b>
<p>Study, analysis and synthesis of data, with the use of required technologic advances</p> <p>Decision making</p> <p>Autonomous task management</p>



Team working
Generation of novel research ideas

### 3. 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. 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**

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Class-room presentations in the amphitheatres and the microscopes' room of the School of Medicine	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	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
<b>STUDENT ASSESSEMENT</b>	<p>Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Matching and right/wrong questions in order to evaluate students' knowledge of the theory</li> <li>• Short answer questions in order to evaluate student's understanding of the theory</li> </ul>	

#### 5. 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)
- c) <http://zoomify.lumc.edu/path/genpath/genpath.htm>
- d) <http://zoomify.lumc.edu/path/virtualpath.htm>
- e) <http://www.stritch.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>

## COURSE OUTLINE MED\_521

### 1. GENERAL

<b>SCHOOL</b>	Health science		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_521	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	Bioethics		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
lectures		1	3
Laboratory		2	
<b>COURSE TYPE</b>	Field of Science		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in Greek language)		
<b>COURSE WEBPAGE (URL)</b>			

### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
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 plot of legal, ethical, philosophical and biomedical components. Also the historical development of ethical consideration in comparison with contemporary bioethics problematic is considered.
<b>General Abilities</b>
By the end of this course the student will be able to: <ul style="list-style-type: none"> <li>• Understand the basic bioethics terminology</li> <li>• Be aware of the principles of bioethics</li> <li>• Acquire the up-to-date knowledge necessary for the development of novel research ideas</li> </ul>

### 3. COURSE CONTENT

In the specific section the application of the principles of bioethics is analyzed and topics as follows:

- Assisted reproduction
- In vitro fertilization and other reproductive technologies.
- Banks for storage and use of gametes and embryos.
- Pre-implantation genetic diagnosis. Sex selection. Surrogate motherhood.
- Check on fertility and reproduction
- Contraception, sterilization, abortion. The rights of fetus.
- The management of the dead body and organ donation
- Autopsy, consent and postmortem examination.
- Posthumous DNA Testing.
- Consent for donation of organs and tissues for education and research.
- Brain death, organ donation and transplantation.
- Provision of medical devices and pharmaceutical therapy
- Medicalization, lifestyle drugs.
- Conflict of interest and medical treatment.
- Overlapping (shared) prescribing.
- Distant prescribing.
- New costly drugs, treatment costs, pharmacogenetics.
- Bioethical problems in Intensive Care Units
- Euthanasia and physician-assisted suicide.
- The problem of medical prosthesis as for near-death medical decisions.
- Withdrawal versus retention of the treatment, treatment refusal.
- Care of the terminally ill patients
- Quality of life. Philosophy and principles of palliative care.
- The role of the will of the patient.
- Patients competent for decisions.
- Adults incompetent for decisions / children.
- Medical records
- Registration, transfer, storage and access to medical data. Patient consent.
- Confidentiality and responsibility.
- Doctor –patient relationship
- Patient –physician contact.
- The therapeutic importance of the relationship between the patient and the physician and the medical team.
- Balancing patient autonomy with that of the physician.
- Doctor selection.
- Informing the patients and relatives for unfavorable diagnosis.
- Bioethics of medical research
- Special research fields. Research in fetal tissues or materials (embryos, embryonic stem cells).
- Research in autopsy material.
- Clinical trials, confidentiality and archive-based research, publishing results.
- Emergency care
- The question of saving a patient that attempts to suicide.
- Stated refusal for treatment by the patient in emergency medicine.
- Genetic engineering
- Specificity of bioethical questions arising from the application of genetic (familial character, ability of irreversible modification of genetic makeup). Predisposition testing.

- Problems of implementation of Genetic Engineering in diagnosis and treatment. Predictive testing.
- Pre-symptomatic testing.
- Controversial uses of genetic information:
- Genetics and Insurance
- Genetics and Professional Experience
- Paternity testing
- Gene therapy in somatic and germline cells – Cloning.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Teaching in classroom	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Lectures with the use of PowerPoint slides to highlight the important points. Presentations are available in e-class.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	14
	Laboratory	28
	<b>Total number of hours for the Course</b>	<b>42</b>
<b>STUDENT ASSESSMENT</b>	Students are assessed by written exams, after arrangement with Academics (one question by each tutor).	

#### 5. RECOMMENDED LITERATURE

- "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.



# COURSE OUTLINE MED\_531

## 1. GENERAL

<b>SCHOOL</b>	SCHOOL OF HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>Med-531</b>	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	PHARMACOLOGY II		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		3	6
Seminars and laboratory work		2	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (to Greek speaking students)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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 purpose of this course is to familiarize the medical student to the integrated actions of drugs in the organs and various physiological systems.

### 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



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

### 3. COURSE CONTENT

1. Medicines of the kidney cardiovascular system. 2. Chemotherapeutic drugs. 3. Endocrine system drugs. 4. Specialty Pharmacology.
---

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Direct (face to face).	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Specialized software	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	23 h
	Tutorials	10 h
	Studying	69 h
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>102 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b> <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</i>	Written final examination (50%) which includes: - Multiple choice questions with a brief explanation.	

*questions, problem solving, written work, essay/report, oral examination, 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*

#### **5. RECOMMENDED LITERATURE**

Goodman & Gillman's Manual of Pharmacology and Therapeutics, 2<sup>nd</sup> version, 2014

# COURSE OUTLINE MED\_541

## 1. GENERAL

<b>SCHOOL</b>	LIFE SCIENCES		
<b>DEPARTMENT</b>	SCHOOL OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_541</b>	<b>SEMESTER OF STUDIES</b>	5th
<b>COURSE TITLE</b>	MICROBIOLOGY II		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		3	6
Seminars and laboratory work		3	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific Area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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*

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.

At the end of the educational process the students:

- 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

*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*

*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*

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

### 3. 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, Mycoplasma.

#### 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).

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	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.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Lectures are performed with PowerPoint presentations by using a PC and a projector in laboratory. The educational process is supported by e-class platform.	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	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
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Assessment is undertaken in the Greek Language with final written exams (100%) and is comprised of: •Clinical problems, justifying the answer chosen. •Multiple choice questions, matching and right/wrong questions in order to evaluate students' knowledge of the theory	

#### 5. RECOMMENDED LITERATURE

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

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

**Title: "Introduction to Clinical Microbiology and Infectious Diseases"**

**Author: Georgios Dimitrakopoulos**

**Publisher: Paschalidis Medical Publications**

**Year of Publication: 1998**

**"Clinical Microbiology"**

**Author: Georgios Dimitrakopoulos**

**Publisher: Paschalidis Medical Publications**

**Year of Publication: 1993**

**E-class PowerPoint Presentation**

## COURSE OUTLINE MED\_141

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>			
<b>COURSE CODE</b>	MED_141	<b>SEMESTER OF STUDIES</b>	5
<b>COURSE TITLE</b>	BIOSTATISTICS		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and Tutorials		4	3
<b>COURSE TYPE</b>	Field of Science (Biostatistics) and Skills Development (Data analysis)		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED806/">https://eclass.upatras.gr/courses/MED806/</a>		

### 2. 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 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**

*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*

*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*

- 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

### **3. 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  $\chi^2$  distribution. Applications of  $\chi^2$  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.



--

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures and laboratory work, face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <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	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	26
	Tutorials	18
	Practicals	8
	Self-study	23
	<b>Total</b>	<b>75</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written examination Problem solving	

#### 5. RECOMMENDED LITERATURE

(Greek language)

- "Basic Principles and Methods of Biostatistics" by Georgios Nikiforidis. Medical Publications LITSA.
- "Medical Statistics" by Dim. Trichopoulos. Scientific Publications PARISIANOS S.A. ATHENS.
- Pagano M. and Gauvreau, K. (2000). "Principles of Biostatistics." (translated by R. Dafni) ELLIN Publications. Peristeri.

(English language)

- 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

# COURSE OUTLINE MED\_551

## 1. 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 PER WEEK	ECTS CREDITS
TEACHING AND CLINICAL TRAINING		3	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?IID=28		

## 2. LEARNING OUTCOMES

Learning outcomes
<p>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:</p> <ol style="list-style-type: none"> <li>21. Acquisition of knowledge – comfort in the professional approach of the patient. Technique of obtaining medical history / physical examination.</li> <li>22. Recording / Oral presentation of medical history</li> <li>23. Pediatric / Psychiatric medical history.</li> <li>24. Understanding the basic core of the commonly used laboratory and other paraclinical tests used in routine clinical practice.</li> <li>25. Basic differential diagnosis</li> <li>26. Read / evaluation of medical records – medical history / medical records.</li> <li>27. Knowledge / routine medical operations execution.</li> <li>28. Medical emergency / first aid.</li> <li>29. Understanding of social-economic issues related to health care through the acquisition of knowledge and skills in epidemiology, health providing and community medicine.</li> <li>30. Understanding the ways in which the cognitive experience is integrated through the interaction of basic sciences, social medicine and clinical medicine.</li> </ol>

## 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*

## 3. 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.

## 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face Lectures and clinical exercise (in teams of 8-10 students).
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Autonomous or group exercises of patient based differential diagnosis search in internet medical databases (PubMed)

TEACHING ORGANIZATION	Activity	Semester workload
	lectures	12
	Clinical exercise (history and clinical examination)	30
	Independent study	18
	<b>Total</b>	<b>60</b>
STUDENT ASSESSEMENT	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.	

#### 5. RECOMMENDED LITERATURE

Barbara Bates: Guide to physical examination and history

Optional Courses  
COURSE OUTLINE MED\_551

**1. GENERAL**

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_561	<b>SEMESTER OF STUDIES</b>	5th
<b>COURSE TITLE</b>	INTRODUCTION TO LABORATORY HEMATOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		4	4
<b>COURSE TYPE</b>	Elective course. Field of Science (Laboratory Hematology) and Skills Development (perform and interpret laboratory hematological tests)		
<b>PREREQUISITE COURSES:</b>	-		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

**2. LEARNING OUTCOMES**

Learning outcomes
<p>At the end of the course the students should know:</p> <ol style="list-style-type: none"> <li>1. What is the blood test (BT) <ol style="list-style-type: none"> <li>1a. What parameters are included in a BT.</li> <li>1b. Based on which parameters of the BT anemia is diagnosed.</li> <li>1c. Based on which parameters of the BT anemia is classified.</li> <li>1d. How do subpopulations of peripheral blood white blood cells are distinguished in BT.</li> <li>1d. What is the immunophenotype of the blood cells.</li> </ol> </li> <li>2. What are the antigenic systems of red blood cells (RBCs)? <ol style="list-style-type: none"> <li>2a. Which characteristics of the antigenic systems of erythrocytes are considered clinically important.</li> </ol> </li> </ol>

- 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

### **3. 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.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	In the classroom and in the lab. Face to face for problem solving.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Lectures and tutorials using ICT. Support of learning process through the e-class platform.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	6
	Tutorials	4
	Tutorial exercises	4
	Laboratory exercises	8
	Homework for problem-solving and preparation of the reports	78
	<b>Total (25h work per 1 ECTS)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b>	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.	

#### 5. 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



# COURSE OUTLINE MED\_581

## 1. GENERAL

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

## 2. LEARNING OUTCOMES

Learning outcomes
<p>At the end of the course the students will have acquired:</p> <ol style="list-style-type: none"> <li>1. in depth knowledge and understanding of the normal structure of human cells-tissues and organs at the macroscopic microscopic, ultrastuctural and molecular levels ( level 6)</li> <li>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)</li> <li>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 (form the molecular level to the level of the whole human body function and behavior)</li> <li>4. the ability to understand mechanisms of human disease</li> <li>5. the ability to combine the knowledge with relevant knowledge of other Clinical topics, current diagnostics and therapeutics of human diseases.</li> </ol>

### 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

### 3. 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
9. Molecular anatomy of neurons and proteinopathies (e.x Parkinson and Alzheimer disease)

### 4. 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.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	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
	<b>Total work load</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b>	<p>Overall assessment of the student participation in the course, participation in interactive teaching and small projects-oral presentations: 30%</p> <p>Written essay: 70%</p> <p>Minimum passing grade: 5/10.</p>	

## 5. 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

# COURSE OUTLINE MED\_591

## 1. GENERAL

<b>SCHOOL</b>	SCHOOL OF HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	591	<b>SEMESTER OF STUDIES</b>	5th
<b>COURSE TITLE</b>	clinical pharmacology and toxicology		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	4
<b>COURSE TYPE</b>	Scientific field		
<b>PREREQUISITE COURSES:</b>	Pharmacology I & II		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (to Greek speaking students)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<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"> <li>• Phenotype, genotype, haplotype</li> <li>• Genetic polymorphisms</li> <li>• Genetic polymorphisms and pharmacological response</li> <li>• Correlation between genotype and phenotype</li> <li>• Genome Wide Strategies</li> <li>• Candidate gene approaches</li> <li>• SNPs in personalized medicine</li> <li>• Toxicogenomics</li> <li>• Contribution of genomics in Forensic Toxicology</li> </ul>
<b>General Abilities</b>
<ul style="list-style-type: none"> <li>-Adaptation to new situations</li> <li>-Decision making</li> <li>-Unsupervised work</li> <li>-Team work</li> <li>-Work in the inter-scientific environment</li> <li>-Production of new research ideas</li> </ul>

-Promotion of free, constructive and inductive reasoning

### 3. 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.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

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

### 5. RECOMMENDED LITERATURE

Publications in international peer-reviewed Journals

## COURSE OUTLINE MED\_592

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF THE COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>MED_592</b>	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	MEDICAL GENETICS (elective course)		
<b>INDEPENDENT TEACHING ACTIVITIES</b>	<b>TEACHING HOURS PER WEEK</b>		<b>ECTS CREDITS</b>
Lectures, Seminars & Laboratory work	2		4
<b>COURSE TYPE</b>	Field of Science		
<b>PREREQUISITE COURSES:</b>	None, However students should possess adequate knowledge provided through the previously taught course on medical genetics ("BIOLOGY II", MED 801).		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	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.		
<b>COURSE WEBPAGE (URL) (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED812/">https://eclass.upatras.gr/courses/MED812/</a>		

### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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).</p> <p>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.</p>
<b>General abilities</b>
<p>By the end of this course the students may have developed certain skills:</p> <ul style="list-style-type: none"> <li>➤ 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.</li> <li>➤ 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.</li> </ul>

### 3. 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.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures, discussions, video lectures in the class, and oral presentations by the students.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester's work load</b>
	Lectures and relevant discussions with the students	50
	Critical study of the literature, essay writing and submission , oral presentation of the esaay in each one of the topics of the course.	62
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>112 : 4 = 28</b>
<b>STUDENT ASSESSEMNT</b>	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.
--	---

#### 5. RECOMMENDED LITERATURE

<ul style="list-style-type: none"> <li>• Thompson &amp; Thompson “Genetics in Medicine” RL Nussbaum, RR McInnes, H.F. Willard, 7<sup>th</sup> Edition, Translation in the Greek language, 2<sup>nd</sup> Edition, Broken Hill Publications. ISBN: 978-960-489-062-0. (suggested as a reference book).</li> <li>• Scientific review articles from the relevant current international literature.</li> <li>• Video lectures given by scientists of international caliber in relevant medical molecular genetics and genomics topics.</li> </ul>
---



# COURSE OUTLINE MED\_593

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_593	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	CLINICAL BIOCHEMISTRY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
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>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Special Background		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED821/">https://eclass.upatras.gr/courses/MED821/</a> <a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=107">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=107</a>		

## 2. 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 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:**

11. 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.

12. Update their background knowledge by following the latest developments in the literature 13. Reach decisions not solely based on the accumulation and interpretation of data, but also after taking under consideration bioethical issues. 14. 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. 15. Be able to communicate information, ideas, problems and solutions of both qualified and non-specialized audiences.	
<b>General Abilities</b> <i>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>	
<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> <i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</i> <i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Project planning and management</i> <i>Respect for difference and multiculturalism</i> <i>Respect for the natural environment</i> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</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>	

### 3. 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.	

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures, group tutorials , preparation and presentation of literature reviews.
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Software use: Power Point, videos from scientific webpages and youtube and uploading of lectures to to e-class

<p><i>Use of ICT in teaching, laboratory education, communication with students</i></p>															
<p><b>TEACHING ORGANIZATION</b>  <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><b>Activity</b></th><th><b>Semester workload</b></th></tr> </thead> <tbody> <tr> <td>Lectures, 2h/week</td><td>26</td></tr> <tr> <td>Tutorials, 2h/week</td><td>24</td></tr> <tr> <td>Laboratory classes</td><td></td></tr> <tr> <td>Data analysis, interpretation and lab report</td><td>10</td></tr> <tr> <td>Homework</td><td>40</td></tr> <tr> <td><b>Total (hours)</b></td><td><b>100</b></td></tr> </tbody> </table>	<b>Activity</b>	<b>Semester workload</b>	Lectures, 2h/week	26	Tutorials, 2h/week	24	Laboratory classes		Data analysis, interpretation and lab report	10	Homework	40	<b>Total (hours)</b>	<b>100</b>
<b>Activity</b>	<b>Semester workload</b>														
Lectures, 2h/week	26														
Tutorials, 2h/week	24														
Laboratory classes															
Data analysis, interpretation and lab report	10														
Homework	40														
<b>Total (hours)</b>	<b>100</b>														
<p><b>STUDENT ASSESSEMENT</b>  <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"> <li>4. Multiple choice questions</li> <li>5. Questions on the analysis of clinical cases</li> <li>6. Questions combining theory and laboratory data analysis</li> <li>7. Interpretation of laboratory data</li> </ol> <p>B. <i>written work and public presentation</i></p>														

## 5. RECOMMENDED LITERATURE

<ol style="list-style-type: none"> <li>1. Clinical Chemistry, 3<sup>rd</sup> Edition, William Marshall, Mosby 2000.</li> <li>2. Clinical Chemistry, 6<sup>th</sup> Edition, William Marshall and Stephen Bangert, Mosby, 2008.</li> <li>3. Clinical Biochemistry, 4<sup>th</sup> Edition, Allan Gaw, Michael J. Murphy, Robert A. Cowan, Denis St. J. O' Reilly, Michael J. Stewart, James Shepherd, Churchill Livingstone Elsevier 2008.</li> </ol>
--

# COURSE OUTLINE MED\_594

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_594	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	EPIDEMIOLOGY OF INFECTIOUS DISEASES		
<b>INDEPENDENT TEACHING ACTIVITIES</b>	<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>	
Lectures, seminars and laboratory work	2 (lect.)	2	
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.  Essentially, the students should possess:  (a) knowledge provided through the previously taught Statistics		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED825/">https://eclass.upatras.gr/courses/MED825/</a>		

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>
<b>General Abilities</b>
<ul style="list-style-type: none"> <li>• Autonomous Work</li> <li>• Teamwork</li> <li>• Identification of risk factors</li> <li>• Epidemic Planning and Management</li> </ul>

## 3. 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).

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures, seminars and laboratory work face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	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
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>50 hours (total student work-load)</b>
<b>STUDENT ASSESSEMNT</b>	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. Minimum passing grade: 5.	

#### 5. RECOMMENDED LITERATURE

Epidemiology, Gordis, Translation A.Vantarakis, 2017  
 Notes of lecturers in Greek

# COURSE OUTLINE MED\_595

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_595	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	CLINICAL BIOCHEMISTRY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).		Total: 2 (13 weeks)	4
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Physiology and Biology		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek and English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED876/">https://eclass.upatras.gr/courses/MED876/</a>		

## 2. 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

### Introduction - Purpose of the Course

The study of embryonic stem cells, the identification of stem cells in tissues and organs of adults, and the discovery of induced pluripotent stem cells have contributed to the understanding of mechanisms controlling homeostasis and the identification of molecular pathways of human diseases. Additionally, it represents a cutting-edge field in biomedical research for the development of new therapies.

The aim of the course is to study populations of stem cells during embryogenesis and adult life, as well as to understand the involvement of embryonic and adult stem cells in homeostasis and the pathogenesis of human diseases.

This course aims to expand students' existing knowledge and incorporate knowledge about stem cells into the normal functioning of the organism. Furthermore, modern approaches to the use of cell replacement methods for the treatment of human diseases will be developed. Ethical issues arising from the use of stem cells in Regenerative Medicine will also be discussed during the lectures.

Educational Objectives The objectives of the course are:

- a) to provide basic knowledge about different categories of stem cells,
- b) to cover the basic molecular and genetic mechanisms regulating their self-renewal and differentiation,
- c) to highlight therapeutic possibilities arising from their use,
- d) to discuss ethical and legal issues related to their use in Regenerative Medicine.

After the completion of the course, students are expected to know:

1. Basic knowledge of types of stem cells. 1.1) embryonic stem cells 1.2) adult stem cells 1.3) Cancer stem cells 1.4) Induced pluripotent stem cells (iPS)
2. Basic molecular mechanisms of stem cells contributing to: 2.1) self-renewal 2.2) determination of differentiation fate 2.3) differentiation
3. Reprogramming and cloning processes
4. Emerging research in stem cells and future prospects for Regenerative Medicine
5. Diseases that can benefit from regenerative medicine 4.1) neurodegenerative diseases 4.2) cancer 4.3) diabetes
6. Organoids and three-dimensional organ creation
7. Medical ethics and certain legal issues related to the use of stem cells in medicine.

#### 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*

*Team work*

*Working independently*

*Production of free, creative and inductive thinking*

### 3. COURSE CONTENT

1. Basic knowledge of types of stem cells.

- 1.1) Embryonic stem cells

1.2) Adult stem cells
1.3) Cancer stem cells
1.4) Induced pluripotent stem cells (iPS)
2. Basic molecular mechanisms of stem cells contributing to:
2.1) Self-renewal
2.2) Determination of differentiation fate
2.3) Differentiation
3. Reprogramming and cloning processes
4. Emerging research in stem cells and future prospects for Regenerative Medicine
5. Diseases that can benefit from regenerative medicine
4.1) Neurodegenerative diseases
4.2) Cancer
4.3) Diabetes
6. Organoids and three-dimensional organ creation
7. Medical ethics and certain legal issues related to the use of stem cells in medicine.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	<ul style="list-style-type: none"> <li>Lectures aimed at understanding the biology and physiology of stem cells and their applications in regenerative medicine.</li> <li>Small group meetings of students with the instructor for the presentation and discussion of specific topics related to the subject of the lectures, focusing on the themes that the students have to present.</li> </ul>	
	<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	
<b>TEACHING ORGANIZATION</b> <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,</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures in the amphitheater and tutorial rooms.	28 h (2 h X 14 weeks = 28 h)
	Small group meetings of students with the instructor, which include the targeting and delineation of the topic they have to present.	6 (2 h X 3 weeks= 6 h)



<i>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>		
	Small group meetings of students with the aim of coordinating and organizing the topic they have to present.	6 (2 h X 3 weeks= 6 h)
	Independent Study	60
	<b>Total (hours)</b>	<b>100</b>
<p><b>STUDENT ASSESSEMENT</b></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>Students will be required to study and present selected topics, which will have been previously discussed with the instructor in the form of Problem-Based Learning (PBL), and the key questions that students should focus on will have been defined. These selected topics will be presented both in written and oral form. Student assessment will be based on the quality, understanding of the presentation, as well as the overall participation of students during the lectures.</p> <p>Minimum passing grade: 5/10</p>	

## 5. RECOMMENDED LITERATURE

<ul style="list-style-type: none"> <li>• "Stem Cells," Efyra Publications 2008, Authors: S. Georgatos, P. Kouklis, G. Lazaridis, A. Melidoni • Alan Trounson and Courtney McDonald, "Stem Cell Therapies in Clinical Trials: Progress and Challenges," Cell Stem Cell 17, July 2, 2015, ©2015 Elsevier Inc • Kazutoshi Takahashi and Shinya Yamanaka, "Development 140, 2457-2461 (2013) doi:10.1242/dev.092551 2013.</li> <li>• J. B. GURDON, "The Developmental Capacity of Nuclei taken from Intestinal Epithelium Cells of Feeding Tadpoles," J Exp. Morph., Vol. 10, Part 4, pp. 622-40, December 1962</li> <li>• P. Karagiannis et al., "New Models for Therapeutic Innovation from Japan," EBioMedicine 18 (2017) 3–4</li> </ul>
---

# COURSE OUTLINE MED\_596

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_596	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	NEUROBIOLOGY OF LEARNING AND MEMORY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	4
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		Total: 2 (13 weeks)	4
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED845/">https://eclass.upatras.gr/courses/MED845/</a>		

## 2. 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 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.

#### **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*  
*Team work*  
*Working independently*  
*Production of free, creative and inductive thinking*

### **3. COURSE CONTENT**

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.

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	In the amphitheater and in the field of experimental research face-to-face. Alternatively, distance learning through videoconferencing lectures at a special online platform of the University of Patras.
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory</i>	Use of electronic presentations and video presentations posted on the e-class electronic platform.

education, communication with students		
<b>TEACHING ORGANIZATION</b> <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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures and discussions in a tutorial room.	26  (2 hours X 13 weeks = 26)
	Demonstration of an in vitro experimental study of synaptic transmission, synaptic plasticity and organization of spontaneous network neuronal activity in a specific experimental neurophysiology room.	4
	Estimated hours for the preparation of oral presentations or written assignments of students.	40
	<b>Total (hours)</b>	<b>70</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	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. 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.	

## 5. RECOMMENDED LITERATURE

- "Concepts in the Science of Memory," K. Papatheodoropoulos, 2015, Athens: Hellenic Academic Libraries. (<http://hdl.handle.net/11419/3244>)
- Rudy, J.W. "The Neurobiology of Learning and Memory," Ed. Sinauer, 2008.
- "Amnesias," A. K. Papanikolaou, University of Crete Publications, 2007.

# COURSE OUTLINE MED\_597

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_597	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	PATHOBIOLOGY OF BONE DISEASES		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, laboratory work		2 (lectures/tutorials)	4
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>		Total: 2 (13 weeks)	4
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	SCIENTIFIC FIELD		
<b>PREREQUISITE COURSES:</b>	ANATOMY I, HSITOLOGY I		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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

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**

*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*

*Generally, by the end of this course the student will, furthermore, 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*

*Analysis and ppt presentation of current original and review articles*

*Adaptation to new situations*

*Decision making*

*Autonomous (Independent) work*

*Group work*

*Exercise 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 mechanotransduction 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. Pathobiology, molecular pathogenesis and treatment of osteoarthritis
11. Bone and eating disorders (obesity and anorexia nervosa): current and promising therapeutic approaches

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Short Lectures, tutorials, ppt presentations, face to face.
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos, android and iOS applications) in teaching. Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teacher-student communication

	<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><b>TEACHING ORGANIZATION</b>  <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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	28
	Interactive teaching/learning	28
	Student projects:	2 for 2-3 students groups
	Analysis of current bibliography / Hours for private study of the student	28
	<b>Total (hours)</b>	<b>100</b>
<p><b>STUDENT ASSESSEMENT</b>  <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>Language: Greek</p> <p>Student evaluation: ppt presentations, clinical and research problem solving, level of interest and critical involvement in the works of the class.</p>	

## 5. RECOMMENDED LITERATURE

- Cell Biology and Histology, Leslie P. Gartner, James L. Hiatt, Judy May Strum
- Colour Atlas of Histology, Ross Michael H
- Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism, 8th Edition, Clifford J. 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*



# COURSE OUTLINE MED\_598

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_598	<b>SEMESTER OF STUDIES</b>	5 <sup>th</sup>
<b>COURSE TITLE</b>	Tropical Medicine and Emerging Infectious Disease		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, laboratory work		2 (lectures/tutorials)	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).		Total: 2 (13 weeks)	4
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Health Sciences		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES (in English)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

### Lerning 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 "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.

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.

Following successful completion of this course the student is expected to:

- 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 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**

*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*

*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*

### **3. 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, Francisella 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 Anthrax, Ebola, Chicken Pox)
- Clinical Cases of tropical skin conditions (Tropical ulcers, Buruli,)

- Clinical Manifestations, Diagnosis and Management of HIV and Tuberculosis in the tropics

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) in teaching.	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	26
	Written Assignment in Small Study Groups	14
	Analysis of current bibliography / Hours for private study of the student	60
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written assignment conducted in groups.	

#### 5. 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

## COURSE OUTLINE MED\_599

### 1. GENERAL

17. GENERAL			
SCHOOL		SCIENCES OF HEALTH, SCHOOL OF MEDICINE	
DEPARTMENT		MEDICINE	
LEVEL OF COURSE		UNDERGRADUATE	
COURSE CODE		MED_599	SEMESTER OF STUDIES 5 <sup>th</sup>
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)		<a href="https://eclass.upatras.gr/modules/auth/opencourses.php?fc=80">https://eclass.upatras.gr/modules/auth/opencourses.php?fc=80</a>	

### 2. 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

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

#### TEACHING METHOD.

- Live in the amphitheater using Power Point Presentations
- Cooperative web conferences with hospitals and robotics specialists
- Channel on Youtube presentations of lectures and sub-group works
- Video Presentations

<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	<ul style="list-style-type: none"> <li>• Power Point Presentations</li> <li>• Specialized Interpretation Simulation Software</li> <li>• Video Presentations</li> <li>• Cooperative web conferences with hospitals and robotics specialists</li> <li>• Support Learning through the e-class platform</li> <li>• Channel on Youtube presentations of lectures and sub-group works</li> <li>• Facebook Group for direct communication (400 members)</li> </ul>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures (2 conduct hours per week x 13 weeks)	26
	Research work and Presentation by small Teams as a Final examination	20
	Hours for private study of the student	54
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>100 hours (total student work-load)</b>
<b>STUDENT ASSESSEMENT</b>	<p>Research work and Presentation by small Teams as a Final examination (100%)</p>	

#### 5. RECOMMENDED LITERATURE

<ol style="list-style-type: none"> <li>6. Notes of lecturers in Greek.</li> <li>7. Lefteris G. Gortzis, Medical Informatics and Telesurgery Theory, Disigma ISBN13- 978-960-9495-31-8</li> <li>8. Power Point Presentations (e-Class)</li> </ol>
--

## 6<sup>th</sup> Semester

### COURSE OUTLINE MED\_681

#### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_681	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	INTRODUCTION TO RADIOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25x1	2
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in greek)		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED1061/">https://eclass.upatras.gr/courses/MED1061/</a>		

#### 2. 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

Aim of this teaching course is to make students familiar with basic imaging studies, relevant to clinical praxis. Moreover students will understand the indications, diagnostic approach and pathologic entities that will be taught in the future semesters.

By the end of this introductory course on Radiology, the student must have knowledge and skills in order to be familiar with:

- 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**

*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*

- 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

### **3. 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)

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Multimedia presentations in lectures  Support of the Learning process by means of the e-class electronic platform	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	
	Lectures	25
	Private Study	10
	Lectures	25
	<b>Total (hours)</b>	
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written final multiple-choice examination (in greek)	

## 5. RECOMMENDED LITERATURE

### FIRST RECOMMENDATION

Book Title: "Anatomy of Diagnostic Imaging"

Author: Fleckenstein P.

Publisher: PARISIANOS S.A.

Year of publication: 2015

### SECOND RECOMMENDATION

Book Title: "Imaging Anatomy"

Authors: Ryan S, McNicholas M, Eustace S.

Greek Editor: Petsas

Publisher: KONSTANTARAS, MEDICAL PUBLICATION

Year of publication: 2013

# COURSE OUTLINE MED\_621

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_621	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	PULMONARY MEDICINE		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		45 hours / 2 weeks	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be performed in English in case foreign students also attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED1040/">https://eclass.upatras.gr/courses/MED1040/</a>		

## 2. 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

Pulmonary Medicine is taught during the second semester in the Auditorium. The aim of the course is to provide the student with essential knowledge in the field of pulmonary medicine. Pulmonary medicine is the science of respiratory system and its systematic study is 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 airways lead the air inside the lung and may allow viruses and other microbes enter the bronchial tree. Finally, they allow waste substances to be excreted, 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 dyspnea.

The aim of the unit “Physical examination and history” is to analyze the methods of physical examination that can be used for the respiratory system. More specifically a careful medical history is needed, together with patient review, palpation, percussion, touch, and auscultation.

In the unit “Laboratory tests” the student understands spirometry, plethysmography, lung diffusion capacity test, cardiopulmonary exercise testing, arterial blood gases analysis, bronchoscopy, aspiration of pleural effusion and polysomnography. Moreover, more recent imaging techniques of the 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 Disease, Lower respiratory tract infections, Interstitial lung diseases, Lung cancer, Pulmonary embolism, Sleep apnoea, Acid-Base Balance, Pleural effusion, 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**

*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*

*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 interdisciplinary environment*

*Production of new research ideas*

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.

### **3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Auditorium Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Auditorium lectures. Use of electronic platform of University	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	45
	Written Assignment in Small Study Groups	10
	Analysis of current bibliography / Hours for private study of the student	45
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written exam at the end of the lectures with multiple choice and questions.	

## 5. RECOMMENDED LITERATURE

ERS handbook, Respiratory Medicine. Paolo Palange, Anita Simonds. 2013. European Respiratory Society. ISBN: 978-1-84984-040-8

# COURSE OUTLINE MED\_631

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_631	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	INTEGRATED HEMATOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	4
2 WEEKS DURATION, INCLUDING ONE DAY OF WRITTEN EXAMINATIONS		45 TEACHING HOURS OR 58 LECTURES/PRESENTATIONS	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	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		
<b>PREREQUISITE COURSES:</b>	GENERAL BIOLOGY, BIOCHEMISTRY		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED1176">https://eclass.upatras.gr/courses/MED1176</a>		

## 2. 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 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

*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*

- *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.*

### 3. 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.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	EDUCATIONAL LECTURES WITH PRESENTATIONS IN AUDITORIUM	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	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 Clinical Hematology during their clinical practice in later stages of their undergraduate education.	
<b>TEACHING ORGANIZATION</b> <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. The student's study hours for each learning activity are given as well as the hours of non-</i>	<b>Activity</b>	<b>Semester workload</b>
	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
	<b>Total (hours)</b>	<b>85</b>

<i>directed study according to the principles of the ECTS</i>	
<p><b>STUDENT ASSESSEMENT</b></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>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>

## 5. 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.

# COURSE OUTLINE MED\_611

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_611	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	CARDIOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES AND CLINICAL PRACTICE		40	4
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	SCIENTIFIC FIELD		
<b>PREREQUISITE COURSES:</b>	YES		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

### Lerning 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

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

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	Project planning and management
Adapting to new situations	Respect for difference and multiculturalism
Decision-making	Respect for the natural environment
Working independently	Showing social, professional and ethical responsibility and sensitivity to gender issues
Team work	Criticism and self-criticism
Working in an international environment	Production of free, creative and inductive thinking
Working in an interdisciplinary environment	
Production of new research ideas	

TEAM WORK (COOPERATING IN MANAGEMENT OF ACUTE CARDIAC PROBLEMS)

### 3. 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.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	NO	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	56
	Hours for private study of the student	44
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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</i>	WRITTEN EXAMS	

<p><i>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>	
--	--

**5. RECOMMENDED LITERATURE**

<p><i>SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT AND BOOKS PROVIDED BY SCHOOL OF MEDICINE</i></p>
---

# COURSE OUTLINE MED\_641

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_641	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	GASTROENTEROLOGY - HEPATOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in greek)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=39">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=39</a>		

## 2. 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 educational objectives in Gastroenterology and Hepatology course intend to teach the student the proper medical history taking, etiopathogenesis, differential diagnosis, symptoms, diagnosis, complications and therapeutic approach of 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

*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*

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

- *Decision making*
- *Autonomous (Independent) work*
- *Working in an interdisciplinary environment*
- *Production of innovative research ideas*
- *Promotion of free, creative and inductive thinking*

### 3. COURSE CONTENT

The content of integrated study in Gastroenterology-Hepatology concerns the main and most representative disorders of the digestive system. The educational units that are taught include:

CLINICAL EXAMINATION OF DIGESTIVE SYSTEM - DIAGNOSTIC ACCESS OF DIGESTIVE DISORDERS - DYSPHAGIA - DYSPEPSIA - ESOPHAGEAL CANCER - PEPTIC ULCER - STOMACH CANCER - UPPER GASTROINTESTINAL BLEEDING - ACUTE KAI CHRONIC DIARRHEA - MALABSORPTION SYNDROMES - IDIOPATHIC INFLAMMATORY BOWEL DISEASES - COLITIS - DIVERTICULITIS - LOWER GASTROINTESTINAL BLEEDING - COLORECTAL CANCER - ACUTE ABDOMEN - BENIGN BILIARY DISORDERS - PANCREATOBILIARY MALIGNANCIES - JAUNDICE - ACUTE AND CHRONIC PANCREATITIS - EMBOLISM - MESENTERIC VENOUS THROMBOSIS - ANEURYSM - ABDOMINAL PAIN IN GYNECOLOGICAL DISORDERS - LIVER ANATOMY AND PHYSIOLOGY – DIFFERENTIAL DIAGNOSIS OF LIVER DISEASES - ACUTE AND CHRONIC LIVER FAILURE - CHRONIC LIVER DISEASES - BILIARY DISEASES - LIVER CIRRHOSIS - PORTAL HYPERTENSION - VARICES - VARICEAL BLEEDING - ASCITES - SPONTANEOUS BACTERIAL PERITONITIS - HEPATORENAL SYNDROME - HEPATIC ENCEPHALOPATHY - HEPATOCELLULAR CARCINOMA - LIVER TRANSPLANTATION

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Teaching face to face.
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory</i>	Use of Information and Communication Technologies (ICTs) (PowerPoint slides) in teaching.



<i>education, communication with students</i>	The lectures' content of the course will be uploaded on the internet, through the e-class electronic platform.	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	50
	Hours for private study of the student	50
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written final examination with multiple choice questions and short answers	

## 5. 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*

# COURSE OUTLINE MED\_651

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_651	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	MUSCULOSKELETAL SYSTEM – CONNECTIVE TISSUE DISEASES		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		30/week	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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 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**

*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*

*Autonomous work*

*Group work*

*Working in an interdisciplinary environment*

### **3. COURSE CONTENT**

Students are taught the following most common rheumatic diseases using a patient-centered approach

- 1) RA
- 2) SLE
- 3) Spondyloarthropathies
- 4) Systemic Sclerosis/inflammatory myositis
- 5) Systemic vasculitides
- 6) Acute monoarthritis (crystal-induced and septic arthritis)

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

TEACHING METHOD	
<i>Face-to-face, Distance learning, etc.</i>	Lecture at the Amphitheatre

<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	The electronic platform “eclass” is freely available to all students	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	42
	Analysis of current bibliography / Hours for private study of the student	58
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	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)	

## 5. RECOMMENDED LITERATURE

--

## 7<sup>th</sup> Semester

### COURSE OUTLINE MED\_722

#### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_722	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	Psychiatry		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		35	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in greek)		
<b>COURSE WEBPAGE (URL)</b>			

#### 2. 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 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.

### **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 student will be able to:*

- *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*

### **3. COURSE CONTENT**

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 Humanities

#### **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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Teaching in classroom	
	Lectures with the use of PowerPoint slides to highlight the important points. Presentations are available in e-class.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>		
<b>TEACHING ORGANIZATION</b> <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. The student's study hours for each learning activity are given as well as the hours of non-</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	30
	Hours for private study of the student	70
	<b>Total (hours)</b>	<b>100</b>

<i>directed study according to the principles of the ECTS</i>	
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	<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 <math>\geq 45</math>.</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>

## 5. RECOMMENDED LITERATURE

1. TITLE: "Modern Psychiatry", AUTHORS: G. Papadimitriou, J. Liappas, L. Lykouras ISBN : 978-9604-521-623 EDITION: 2012 CODE EVDOXOS: 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 EVDOXOS: 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*



# COURSE OUTLINE MED\_741

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_741	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	SURGERY-TRAUMA		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and practical work		25	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>			
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

### Lerning 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

### EDUCATIONAL GOALS ON TRAUMA- EVALUATION OF MULTIPLE INJURIES

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.

#### EDUCATIONAL GOALS REGARDING THORACIC TRAUMA

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%

#### 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**

*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 with the use of appropriate technologies*

**3. COURSE CONTENT**

Trauma epidemiology  
Laws of energy on trauma  
Airway and respiration  
Shock  
Thoracic trauma  
Head injuries  
Spinal cord and vertebrate injuries  
Hot and cold burn injuries  
Musculoskeletal trauma  
Fractures in childhood  
Post-traumatic distending osteogenesis  
Long bone fractures  
Hip fractures  
Open fractures  
Fractures of the lower radius  
Upper arm brace fractures  
Patient transportation  
Practical application

**4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Face to face, e-class.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of I.C.T (eg Powerpoint) in lectures. The lectures are uploaded on the Internet (e-class).	
<b>TEACHING ORGANIZATION</b> <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,</i>	<b>Teaching Method</b>	<b>Semester Workload</b>
	Lectures	60
	practical work	40

<i>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>	<b>Total number of hours for the Course</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written assessment Multiple choice exams  Minimum passing grade: 5	

## 5. RECOMMENDED LITERATURE

ATLS: Advanced Trauma Life: Support for Doctors

Litera - John Boukouvalas 2010 ISBN: 9789605444716

# COURSE OUTLINE MED\_751

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCE		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_751	<b>SEMESTER OF STUDIES</b>	SEVENTH
<b>COURSE TITLE</b>	HEALTH PROMOTION/PREVENTIVE MEDICINE		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	2
<b>COURSE TYPE</b>	Field of Science		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite courses		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

Leraning outcomes
<p>The course is the main introductory course in the concepts of Health Promotion, Disease Prevention and Community Medicine.</p> <p>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.</p> <p>The methods of infectious diseases control in the Community and the methodology of epidemiological observation are shown and analyzed.</p> <p>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.</p> <p>Finally, part of the subject matter of the course is the introduction in concepts of Public Health, Health Systems and Health Policies.</p> <p>By the end of this course the student will be able to :</p> <ul style="list-style-type: none"> <li>• understand the principles of Preventive Medicine</li> <li>• gain knowledge about the levels of prevention</li> <li>• gain knowledge about diagnostic tests and when they should be used in the context of screening</li> <li>• gain knowledge of the methods of preventing heart disease, malignant neoplasms and other chronic diseases in the community</li> <li>• use the techniques and methods of epidemiological observation</li> <li>• organize Health Promotion programs in the community, at workplace, in schools and evaluate them</li> </ul>

- 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

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Lectures, comprehension exercises
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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 study of the student	10
	Final examination	3
	Hours for private study of the student	12
	<b><i>Total number of hours for the Course</i></b>	<b>100</b>
STUDENT ASSESSMENT	<p>Written examination including:</p> <ul style="list-style-type: none"> <li>• Multiple choice questions</li> <li>• Exercises</li> </ul> <p>Minimum passing grade: 5</p>	

## 5. 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 MED\_761

### 1. GENERAL

<b>SCHOOL</b>	Medical Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Pre graduate		
<b>COURSE CODE</b>	MED_761	<b>SEMESTER OF STUDIES</b>	7 <sup>th</sup> (mandatory)
<b>COURSE TITLE</b>	Oncology – Infections Diseases		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		21	4
<b>COURSE TYPE</b>	Background, Scientific area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<ul style="list-style-type: none"> <li>• Teaching is performed through lectures in the auditorium.</li> </ul> <p>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</p> <ul style="list-style-type: none"> <li>• Principles of oncogenesis</li> <li>• Diagnostic and therapeutic approach of cancer patients</li> <li>• Clinical problems of cancer patients                         <ul style="list-style-type: none"> <li>• Abdominal pain, cachexia, anemia, abdominal mass</li> <li>• Hemoptysis, hoarseness, chest pain, epilepsy</li> </ul> </li> <li>• Diagnostic approach of the patient with abdominal mass, management of jaundice, ERCP</li> <li>• Management of ascites and electrolyte disturbances</li> <li>• The role of tumor markers in the diagnosis of malignant diseases. Imaging methods in Nuclear Medicine</li> <li>• Radiologic diagnosis of the oncologic patient</li> <li>• Dyspnea – Hemoptysis in cancer patients: diagnostic approach – supportive measures</li> <li>• Breast mass: diagnostic approach-staging-clinical features of breast cancer</li> <li>• Pathogenesis of breast cancer – prognostic factors</li> <li>• Principles of radiation therapy of breast cancer</li> <li>• Principles of systemic therapy of breast cancer</li> </ul>



- 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

### **3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Teaching is performed through lectures in the auditorium	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Support Learning through the e-class platform	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	Lectures	48
	Hours for private study of the student	52
	<b><i>Total number of hours for the Course</i></b>	<b><i>100</i></b>
<b>STUDENT ASSESSMENT</b>	Written final exam (100%) including: <ul style="list-style-type: none"> <li>• Multiple choice questions (50%)</li> <li>• Questions concerning the clinical features, diagnosis and management of oncologic patients</li> </ul>	

#### 5. RECOMMENDED LITERATURE

--

# COURSE OUTLINE MED\_721

## 1. GENERAL

<b>SCHOOL</b>	OF HEALTH SCIENCES		
<b>DEPARTMENT</b>	OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED721	<b>SEMESTER OF STUDIES</b>	7 <sup>th</sup>
<b>COURSE TITLE</b>	Neurology - Neurosurgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
	lectures	30	4
<b>COURSE TYPE</b>	Field of science		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>	-		

## 2. LEARNING OUTCOMES

Leraning outcomes
<p>The course provides basic knowledge for the examination of the nervous system and the recognition 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.</p> <p>Many examples are provided from real life help understand the concepts. Students are encouraged to actively participate in the lesson by posing questions.</p> <p>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.</p>

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

### 3. 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, agiomas) (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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Teaching in classroom	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Lectures with the use of PowerPoint slides to highlight the important points. Presentations are available in e-class.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	30

	Hours for private study	70
	<b>Total hours for the course</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b>	<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 <math>\geq 45</math>. 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>	

## 5. RECOMMENDED LITERATURE

### 1. NEUROLOGY "Vasilopoulos"

Scientific Editor: Ioannis Evdokimidis, Konstantinos Potagas

ISBN: 978-9963-258-67-3

CODE. EYDOXOS: 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

CODE. EYDOXOS: 33155295

Pages: 589

Publisher: Parisianos S.A.

# COURSE OUTLINE MED\_711

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>MED_711</b>	<b>SEMESTER OF STUDIES</b>	7th
<b>COURSE TITLE</b>	ENDOCRINE SYSTEM		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		25	4
<b>COURSE TYPE</b>	SCIENTIFIC AREA		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>			
<b>COURSE WEBPAGE (URL)</b>	eclass.upatras.gr		

## 2. LEARNING OUTCOMES

### Leraning outcomes

#### Knowledge of Basic Sciences

1. Anatomy of the endocrine glands
2. Physiology
  - Hormone synthesis and metabolism
  - Regulation of hormone secretion
  - Hormone action – Receptors – Types of Receptors – Receptor signaling – 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

### **3. 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

Thyroiditis

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

Paget's 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

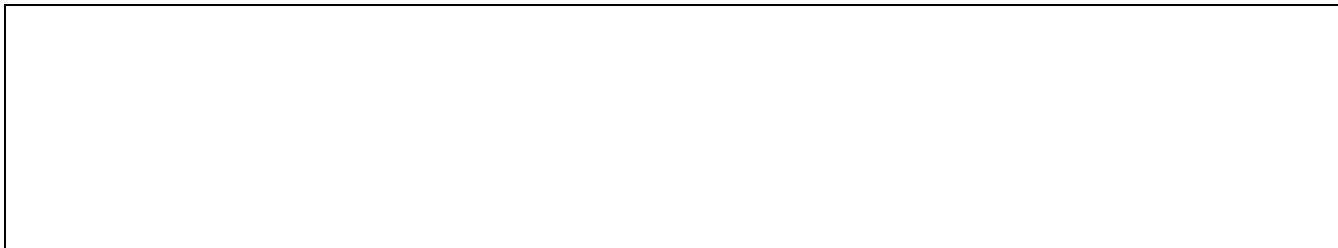
Regulation of aldosterone secretion
Primary aldosteronism
Clinical presentation
Diagnosis
Treatment
Catecholamines
Pheochromocytoma- Paragangliomas
Clinical presentation
Diagnosis
Treatment

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face in the amphitheater	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Power point presentations	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	26
	Written Assignment in Small Study Groups	14
	Analysis of current bibliography / Hours for private study of the student	60
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b>	Greek language Multiple choice questions Short essays	

#### 5. RECOMMENDED LITERATURE

Harrison's Principles of Internal Medicine <i>Davidson's Internal Medicine,</i> <i>The Endocrine System at a Glance (Ben Greenstein, Diana Wood)</i>
--



# COURSE OUTLINE MED\_771

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_771	<b>SEMESTER OF STUDIES</b>	7 <sup>th</sup>
<b>COURSE TITLE</b>	PAEDIATRICS (4 <sup>th</sup> YEAR – Integrated Teaching II)		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	4
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=64">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=64</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>The <b>aim</b> of the course is the <b>theoretical training of medicine students in Paediatrics</b>.</p> <p>In their fourth year of studies, medical students attend Paediatrics lectures for <b>two (2) weeks per year</b> in the context of Compiled Teaching II activities.</p> <p><b>Aim:</b> 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"> <li>• To acquire critical knowledge on the most common pediatric disorders</li> <li>• To understand the pathophysiology of selected pediatric diseases</li> <li>• To compile and analyze the above information for obtaining differential diagnosis</li> </ul>
<b>General Abilities</b>
<p>By the end of this course the student will, furthermore, have develop the following general abilities:</p> <ul style="list-style-type: none"> <li>• Searching, analysis and synthesis of facts and information</li> <li>• Decision making</li> <li>• Promotion of free, creative and inductive thinking</li> </ul>

## 3. COURSE CONTENT

<p>1. Infectious diseases</p> <ul style="list-style-type: none"> <li>• Vaccines</li> <li>• Fever (differential diagnosis, laboratory work-up, treatment), Bacteremia, Septicemia, Meningitis</li> <li>• Infections (viral, bacterial, etc.)</li> <li>• Upper Respiratory Tract infections</li> </ul>
--

- 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face (lectures)	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Communication Technologies in teaching (PowerPoint)	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester work-load</b>
	Lectures (25 hours per week x 2 weeks)	50
	<b>Total number of work-load hours</b>	<b>50 hours = 4 ECTS credits</b> (12.5 hours of work-load per ECTS credit)
<b>STUDENT ASSESSEMENT</b>	Written final examination with multiple choice questions	

#### 5. RECOMMENDED LITERATURE

*Nelson Textbook of Pediatrics, 20<sup>th</sup> ed. Elsevier, 2016*



# COURSE OUTLINE MED\_781

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_781	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	OBSTETRICS AND GYNAECOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		20	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

### Lerning 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 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.

### 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>	

Promoting free and creative thinking.

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

### 3. COURSE CONTENT

- 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Face to face lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Specialized on line platform, e-class	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	40
	Analysis of current bibliography / Hours for private study of the student	60
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Multiple choice questions – written exams  Class participation	

#### 5. RECOMMENDED LITERATURE

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*

## 8<sup>th</sup> Semester

### COURSE OUTLINE MED\_887

#### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_887	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	<b>Fluid, electrolyte and acid-base disorders and basic principle for their correction.</b>		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	2
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Background, Skills development		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

#### 2. 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

Students with the successful completion of the course will be able to evaluate the need for fluid delivery in stable and pathological conditions. They will also be in position of evaluating and preventing possible complications and effects of different kinds of fluids administration on the intravascular and extravascular volume and the acid-base balance.

### 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, analyze and synthesize data and information, using the necessary technologies

Autonomous work

Decision making

### 3. COURSE CONTENT

- Introduction and basic principles of solutions
  - o Solvent measurement units
  - o Movement of solvents
  - o Water movement
  - o Osmotic pressure - Solutions tonicity
- Distribution and composition of body fluids
  - o Volume and distribution of body fluids
  - o Composition of body fluids. Intracellular and extracellular space
- Water balance - Dehydration - Hydration
  - o Daily requirements and mandatory fluid losses
  - o Water balance
  - o Losses of fluids from various systems - clinical picture and laboratory findings
  - o Causes - Clinical picture - Laboratory findings of overhydration
- Effect of pathological conditions on fluid balance
  - o Non-specific effects of trauma and acute conditions on fluid balance
  - o Capillary escape of albumin
  - o Effect of acid states on potassium balance
  - o Organ disorders affecting fluid balance
- Types of intravenous solutions
  - o Sodium chloride solutions
  - o Glucose solutions
  - o Balanced solutions
  - o Colloid solutions
  - o Mannitol
- Estimation and monitoring of patients receiving intravenous solutions
  - o Clinical parameters for assessing the administration of fluids
  - o Laboratory parameters for assessing fluid delivery
  - o Monitoring of body weight
  - o Monitor urinary excretion
  - o Importance of measurement of serum chloride
- Administration of maintenance fluids
  - o Intravenous fluid types for maintenance

- o Choosing a rate of fluid delivery
  - o Administration of maintenance fluids to groups of patients with special characteristics (elderly - obese)
    - Administration of fluids to patients with sodium homeostasis disorders
  - o Liquid administration to patients with hyponatraemia
  - o Liquid administration in patients with hypernatremia
    - Fluid delivery during the recovery phase
  - o Types of intravenous fluids given during the resuscitation phase. Advantages and complications
  - o Volume of intravenous fluids and clinical targets
    - Fluid delivery to sepsis
- Systemic Inflammatory Reaction Syndrome (SIRS) - Seizure - Severe Heart Attack - Septic Stroke - Diarrheal Escape
- o Comparison of administration of crystalline and colloidal solutions. Advantages and disadvantages
- Volume of administration of intravenous solutions and clinical targets
- Administration of fluids to patients with volume loss or fluid distribution disorders
  - o Fluid administration principles to restore volume and ongoing losses
  - o Administration of fluids to patients with fluid loss from the gastrointestinal tract
  - o Administration of fluids to patients with pancreatitis
  - o Administration of fluids to patients with fluid management disorders
    - Fluids administration to the surgical patient
  - o Pre-operative and intraoperative administration of intravenous solutions to the patient undergoing intra-abdominal surgery
  - o Administration of intravenous solutions to the patient with regional / senile anesthesia
  - o Administration of intravenous solutions to neurosurgery and gynecological patients
  - o Administration of intravenous solutions to the patient with a burn
    - Complications of fluid administration
  - o Effect of crystalline and colloidal solutions on coagulation
  - o Volume disorders
  - o Electrolyte disturbances
  - o Acid-base balance disorders
    - Clinical examples of fluid administration
    - Clinical examples of fluid administration

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) in teaching.	
<b>TEACHING ORGANIZATION</b> <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. The student's study hours for each learning activity are given as well as the hours of non-</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	25
	Analysis of current bibliography / Hours for private study of the student	100
	<b>Total (hours)</b>	<b>125</b>

<i>directed study according to the principles of the ECTS</i>	
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written multiple choice examination

#### 5. RECOMMENDED LITERATURE

--



## COURSE OUTLINE MED\_886

## 1. GENERAL

SCHOOL	HEALTH SCIENCES		
DEPARTMENT	MEDICINE		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	MED_886	SEMESTER OF STUDIES	6 <sup>th</sup>
COURSE TITLE	Anesthesiology, perioperative and emergency medicine		
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	14		5
Participation in educational clinical visits	5		
Clinical Exercise (ICU and Anesthesiology)	5		
Study and analysis of bibliography, writing of scientific papers	1		
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).	25 hours (total)		
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Field of Sciences		
PREREQUISITE COURSES:	None		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		

<b>COURSE WEBPAGE (URL)</b>	<a href="https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2POSJE7XgRa?dl=0">https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2POSJE7XgRa?dl=0</a>
---------------------------------	---

## 2. 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*

### Course Objectives:

Knowledge, understanding, implementation, synthesis and evaluation of anesthesiology, perioperative and emergency medicine issues.

In the anesthesiology, perioperative and emergency medicine course, the above goals are summarized in 3 categories

1. - **Knowledge** of anesthesiology, perioperative and emergency medicine
2. - A combination of understanding and clinical / practical application of anesthesiology, perioperative and emergency medicine (**skill**)
3. - The ability to solve problems, transferring existing knowledge and acquired skills to new situations (**ability**)

### More specifically:

The final level of knowledge allows students to know the basic theories of anesthesia and its components and to understand their application to general anesthesia. Plan the pre-operative-pre-anesthetic preparation and assessment of patients. To be familiar with the basic pharmacology of anesthetic drugs, the basic principles of monitoring the patient's vital functions perioperatively (monitoring) and to be able to apply the basic ventilation techniques. Be aware of the basic principles of regional anesthesia techniques and the medicines used in it. To effectively deal with postoperative pain. Be aware of the principles of dealing with a polytrauma and other life threatening emergencies. At the end of the semester, students are assessed by their participation in the course deliveries in the Anesthesiology Department and the results of oral examinations.

### 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>	

### *Production of new research ideas*

- 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

### 3. COURSE CONTENT

- Types of Anesthesia,
- General anesthesia,
- Patient information-consent for anesthesia, preoperative preparation,
- General Anesthesia - case reporting, safe anesthesia,
- Venous access,
- Maintenance of airway duct, ventilation with AMBU, laryngeal mask (LMA), intratracheal intubation,
- Anesthetic drugs, post-operative complications (PONV, awareness, nerve injury, airway injury),
- Patient monitoring - medical simulation.
- Regional anesthesia,
- Post-operative pain, chronic pain.
- Basic life support and automatic external defibrillation.
- Specialized support for life.
- Polytrauma, fluid administration, transfusion, patient screening.
- Emergency treatment,
- Medical simulation on prototypes.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of information and communication teaching technologies	
<b>TEACHING ORGANIZATION</b> <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. The student's study hours for each learning activity are</i>	<b>Activity</b>	<b>Semester Workload</b>
	Lectures	20
	Participation in educational clinical visits	10
	Clinical Exercise (ICU and Anesthesiology)	10
	Study and analysis of bibliography, writing of scientific papers	2
	<b>Total number of hours for the Course</b>	<b>42 hours</b>

<i>given as well as the hours of non-directed study according to the principles of the ECTS</i>	
<p><b>STUDENT ASSESSEMENT</b>  <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><b>Assessment Language: Greek</b></p> <p><b>Assessment methods:</b></p> <ul style="list-style-type: none"> <li>• Multiple Choice Test</li> <li>• Short answer questions</li> <li>• Oral case discussions</li> </ul> <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>

## 5. RECOMMENDED LITERATURE

*Morgan & Mikhail's Clinical Anesthesiology*

*Anesthesiology, European Journal of Anaesthesiology, British Journal of Anaesthesia*

# COURSE OUTLINE MED\_885

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_885	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	Athletic injuries – Arthroscopic Surgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific area, expertise		
<b>PREREQUISITE COURSES:</b>	ANATOMY, (ORTHOPAEDICS)		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek, English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	e-class (to be uploaded)		

## 2. 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 lesson is a specific sub-specialty of Orthopaedics & Traumatology mainly concerning athletic injuries and their modern therapy with the innovative techniques of arthroscopic surgery.

Purpose: The familiarity of the student with the field of Sports Medicine: The nature of acute athletic injuries and chronic overuse syndromes, conservative and surgical treatment as well as physiotherapy and rehabilitation. Introduction and principles of arthroscopic surgery (shoulder injuries, meniscus and cruciate ligaments injuries, ankle, hip, tendinitis in various ligaments stress fractures, overuse injuries, cartilage injuries, chronic compartment syndromes etc). The role of new biological therapies (cartilage transplantation, hyaluronic acid, PRPs, etc).

## GENERAL EDUCATIONAL GOALS

Upon completion of studentship the student would be able to:

1. Identify and manage basic athletic injuries who would face during his/her general practice or general surgical training (type III ankle sprains, knee effusion, shoulder or patella dislocation etc).
2. Identify and analyze basic radiological imaging of athletic injuries (x-rays, MRI) and to prescribe appropriate investigations as part of his/her referrals.
3. Know and apply basic clinical examination of athletic injuries.
4. Identify and understand basic anatomical landmarks and also arthroscopic video-anatomy, as well as basic joint biomechanics.
5. Know and understand as possible would be the principles and basic steps of arthroscopic techniques of athletic injuries (mainly in the knee, shoulder and ankle).
6. Identify possible complications for his/her practice and manage them accordingly.
7. Identify new experimental pathways through the understanding of cartilage degeneration and remodeling, the use of biological therapies in young osteoarthritis and also to investigate indications and results of these new but very promising treatments.
- 7 Identify the principles of physiotherapy and rehabilitation.

### 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*

- *Searching, interpretation and synthesis of data and information.*
- *Adaptation in new environment*
- *Decision making*
- *Individual work-up*
- *Team work*

## 3. COURSE CONTENT

Introduction to Sports Medicine, basic joint anatomy, arthroscopic anatomy, athletic injuries, , first aid in the field, basic biomechanics of the knee and shoulder joint, pathophysiology of acute and chronic injuries, overuse syndromes, clinical examination of the injured athlete, basic imagine and classification, indication for surgical treatment and basic approaches and techniques, basic principles of physiotherapy and rehabilitation.

## 4. TEACHING AND LEARNING METHODS - ASSESSMENT

### TEACHING METHOD

*Face-to-face, Distance learning, etc.*

Face to face

<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	e-class	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Teaching Method</b>	<b>Semester Workload</b>
	Lectures	20
	practicals	8
	Video-presentations	4
	Stimulation	4
	Reference review	14
	Independent study	75
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Total	
	Written examination (multiple choice questions)	
	Presentation	
	Review article	

## 5. RECOMMENDED LITERATURE

--

# COURSE OUTLINE MED\_882

## 1. GENERAL

<b>SCHOOL</b>	Health Sciences		
<b>DEPARTMENT</b>	Medical school		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_882	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> -12 <sup>th</sup> / 6 <sup>TH</sup> year
<b>COURSE TITLE</b>	Functional Urology (elective clinical training)		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific field		
<b>PREREQUISITE COURSES:</b>	Urology		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (English)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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

### 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**

*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*

*Clinical decision making, Working in an international setting, Development of research ideas*

### **3. 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)

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Audiovisual (PowerPoint)	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	20
	Seminars	3
	Review of bibliography	17
	Analysis of current bibliography / Hours for private study of the student	60
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMNT</b> <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 given, and if and where they are accessible to students</i>	Oral exam in Greek and English	

## 5. RECOMMENDED LITERATURE

Introduction to Functional Urology, A. Athanasopoulos, Patras 2015(Greek)  
<https://www.ics.org/education/icspublications>  
 -Journals: Neurourology & Urodynamics

# COURSE OUTLINE MED\_878

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_878	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	VASCULAR SURGERY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific area		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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

Learning of vascular disease affecting arterial, venous and lymphatic system, including venous trauma and diabetic foot.

### 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 Project planning and management Respect for difference and multiculturalism

<i>technology</i> <i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</i> <i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Respect for the natural environment</i> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i>
<i>Adaptability in a new environment</i> <i>Decision making</i> <i>Autonomous work</i>	

### 3. COURSE CONTENT

Diseases of arteries, veins and lymphatic vessels. Diabetic foot.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>		
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Tutorials and educational ward rounds	25 hours
	Analysis of current bibliography	40
	Hours for private study of the student	60
	<b>Total (hours)</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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,</i>	Verbal examination	

clinical examination of patient, art interpretation, other

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

## 5. RECOMMENDED LITERATURE

*European Journal of Vascular and Endovascular Surgery, Journal of Vascular Surgery*

COURSE OUTLINE MED\_873

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_873	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	Transplant		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		12,5	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>	Typically, there are no prerequisite courses.  Essentially, the student should possess knowledge of basic Anatomy, Physiology and Surgery		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be performed in English, in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

### 2. LEARNING OUTCOMES

#### Lerning 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

<ul style="list-style-type: none"> <li>• Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</li> <li>• Guidelines for writing Learning Outcomes</li> </ul>																	
<p>Understanding of the immunological mechanisms of transplants</p> <p>Understanding of the rejection mechanisms</p> <p>Understanding of the anatomy and physiology of organ transplants</p> <p>Understanding of brain death and organ donation</p>																	
<p><b>General Abilities</b></p> <p><i>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></p> <table> <tr> <td><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td><td><i>Project planning and management</i></td></tr> <tr> <td><i>Adapting to new situations</i></td><td><i>Respect for difference and multiculturalism</i></td></tr> <tr> <td><i>Decision-making</i></td><td><i>Respect for the natural environment</i></td></tr> <tr> <td><i>Working independently</i></td><td><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></td></tr> <tr> <td><i>Team work</i></td><td><i>Criticism and self-criticism</i></td></tr> <tr> <td><i>Working in an international environment</i></td><td><i>Production of free, creative and inductive thinking</i></td></tr> <tr> <td><i>Working in an interdisciplinary environment</i></td><td></td></tr> <tr> <td><i>Production of new research ideas</i></td><td></td></tr> </table>		<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 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>																	
<p><i>Search, analysis and synthesis of data with the use of appropriate technologies</i></p> <p><i>Decision making</i></p> <p><i>Working alone and as part of a team</i></p>																	

### 3. 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>
---

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<p><b>TEACHING METHOD</b></p> <p><i>Face-to-face, Distance learning, etc.</i></p>	Face to face, e-class.		
<p><b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b></p> <p><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Use of I.C.T (eg Powerpoint) in teaching. The lectures are uploaded on the Internet (e-class).		
<p><b>TEACHING ORGANIZATION</b></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>	<b>Activity</b>	<b>Semester workload</b>	
	Lectures (12,5 hours/week x 2 weeks)	25	
	Participation in the OR (after consulting the Professor)	Optional	
	Analysis of current bibliography	30	
	Hours for private study of the student	60	
	<b>Total (hours)</b>	<b>125</b>	

<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>	
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	<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>

## 5. RECOMMENDED LITERATURE

D. Voros, Surgery, 2<sup>nd</sup> edition, Parisianou A.E. 2014

E-class notes

# COURSE OUTLINE MED\_839

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_839	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	ORTHOPEDICS		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES		25 (2 weeks in 8 <sup>th</sup> semester)	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).		Total of 50 h of lectures	5
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific area, expertise		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek, English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/main/portfolio.php">https://eclass.upatras.gr/main/portfolio.php</a>		

## 2. 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 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**

*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*

- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

**3. 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)
- Peripheral nerve compression syndromes
- Peripheral Nerve and brachial plexus injuries

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Class, ward rounds, operation theater, A & E department, Rehabilitation center	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	e-class platform	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	50
	Analysis of current bibliography / Hours for private study of the student	75
	<b>Total (hours)</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	. Written examination [multiple choice or full text]	

#### 5. RECOMMENDED LITERATURE

Orthopedics and Traumatology, Elias E. Lampiris, Medical Publications P. H. Paschalidis, 2007

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

## COURSE OUTLINE MED\_872

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_872	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	Introduction to Cardiothoracic surgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	
Other activities		9	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			5
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	SCIENTIFIC AREA		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES (IN ENGLISH LANGUAGE)		
<b>COURSE WEBPAGE (URL)</b>			

### 2. 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

### **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 whether 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. 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 an active experimental protocol.

### **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

- Autonomous Work Study
- Team Work Study
- Planning and Organizing of the Annual Scientific Seminar

Multidisciplinary Team Work

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) in teaching.	
<b>TEACHING ORGANIZATION</b> <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,</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	25
	Team work study, Scientific papers, Power Point Presentations	36
	Organizing Annual Seminar	10
	Autonomous Study Work	38
	Hands on clinical practice	2

<i>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>	Annual Scientific Seminar	4
	Tutorials related to the Annual Seminar	10
	<b>Total number of hours for the Course</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	1. Written exams which include <ul style="list-style-type: none"> <li>• Multiple choice questions</li> <li>• Patient and problem management in different clinical scenarios</li> </ul> 2. Expert lecture in Cardiothoracic Surgery Topics at the Annual Scientific Seminar	

#### 5. RECOMMENDED LITERATURE

<ul style="list-style-type: none"> <li>• Thoracic Surgery Notes. Apostolakis E, Koletsis E, Dougenis D</li> <li>• Cardiac Surgery. Spanos P et al. University Studio press 1999</li> <li>• <a href="http://www.ctsnet.org">http://www.ctsnet.org</a></li> </ul>
---

# COURSE OUTLINE MED\_877

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_877	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	Maternal Fetal Medicine		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		3	5
Laboratory		3	
Clinical		2	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific area		
<b>PREREQUISITE COURSES:</b>	Obstetrics and Gynecology		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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 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

*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*

*Decision making*

*Working (collaborating) in a scientific environment*

*Autonomous work*

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures – examining patients	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) in teaching.	
<b>TEACHING ORGANIZATION</b> <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. The student's study hours for each learning activity are given as well as the hours of non-</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	10
	Clinical assessment	16
	Analysis of current bibliography / Hours for private study of the student	100
	<b>Total (hours)</b>	<b>125</b>



<i>directed study according to the principles of the ECTS</i>	
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Language: Greek Method: Multiple choice + patient assessment

#### 5. 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

## COURSE OUTLINE MED\_879

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_879	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	The Pharmacological basis of Therapeutics. Contribution to the preparation of the new doctor		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific field, skills development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (to Greek speaking students)		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://www.facebook.com/groups/405801169846103/">https://www.facebook.com/groups/405801169846103/</a> For registered users only		

### 2. 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 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.

### **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>	

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. COURSE CONTENT**

- 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)
- x. PBL (Acute fulminant hepatitis with liver failure and transplantation: Clinical pharmacology of liver diseases and principles of transplantation)
- xi. Diabetes Mellitus.Diabetic ketoacidosis.Hyperosmotic coma.

xii. PBL (Visceral Leishmaniasis on the top of Ischemic heart disease/Insulin dependent DM/Psoriatic arthritis/Chronic renal failure: Balancing between opposing decisions)

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) in teaching.	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	25
	Analysis of current bibliography	40
	Hours for private study of the student	60
	<b>Total (hours)</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Oral/written Structured Clinical Examinations on a PBL basis (Modified OSCE)	

#### 5. RECOMMENDED LITERATURE

--



# COURSE OUTLINE MED\_884

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_884	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	Neuropsychiatry		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in Greek language)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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

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

*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 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

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Teaching in classroom	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Lectures with the use of PowerPoint slides to highlight the important points. Presentations are available in e-class.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>

<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 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>	Lectures	25
	Analysis of current bibliography	50
	Hours for private study of the student	50
	<b>Total (hours)</b>	<b>125</b>
<p><b>STUDENT ASSESSEMENT</b></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>Students' assessment is oral, after arrangement with Professors.</p> <p>Assessment language is Greek.</p>	

## 5. 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*



# COURSE OUTLINE MED\_871

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_871	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	Urology		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Background		
<b>PREREQUISITE COURSES:</b>	-		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (English)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=53">http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=53</a>		

## 2. 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

Level Index: 6

The main objective of this course is to provide the background knowledge of urologic disease as well as basic techniques used in urology that are indispensable to all medical professionals regardless of further specialization.

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

### 3. COURSE CONTENT

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, 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 techniques of 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 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.

Teaching of urology is organized in 6 major axis: 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.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Audiovisual (PowerPoint)	
<b>TEACHING ORGANIZATION</b> <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. The student's study hours for each learning activity are given as well as the hours of non-</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	70
	Analysis of current bibliography	30
	Hours for private study of the student	25
	<b>Total (hours)</b>	<b>125</b>

<i>directed study according to the principles of the ECTS</i>	
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	<p>Written exam in Greek</p> <p>Oral exam in English (Erasmus)</p>

## 5. RECOMMENDED LITERATURE

Smith's general urology  
 PRACTICAL UROLOGY: essential principles and practice (CR. CHAPPLE)  
<https://www.sciencedirect.com/journal/european-urology>  
<https://www.journals.elsevier.com/the-journal-of-urology/>  
<http://www.hellenicurology.com/index.php/Hellenic-Urology>

# COURSE OUTLINE MED\_831

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_831	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	PHTHALMOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Compulsory, General Knowledge, Core Course, Skills Development		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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

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**

*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*

- Teaching of the basic ocular anatomy and physiology
- Ophthalmic Diseases and treatment
- Presentation of clinical cases- Discussion of the cases

### **3. 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 disk  
Acquired disturbances that blur the boundaries of the optic disk  
Disturbances in which the boundaries of the optical disk are clearly scarred

Tumors  
Intraocular tumors of the optic nerve  
Retrobulbar tumors of the Optic nerve

Visual pathway  
Visual tract disorders  
Pre-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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching.	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	100
	Hours for private study of the student	25
	<b>Total (hours)</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written examination after the end of the semester - final grade Minimum passing grade: 5.	

## 5. RECOMMENDED LITERATURE

Suggested Books



# COURSE OUTLINE MED\_831

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_876	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	Pediatric and Reproductive Endocrinology		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science (Pediatric and Reproductive Endocrinology)		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/modules/course_description/?course=MED1045">https://eclass.upatras.gr/modules/course_description/?course=MED1045</a>		

## 2. 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 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.

#### 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>	

*Acquisition of social, professional and moral responsibility and sensitivity to gender issues.*

*Respect of diversity.*

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	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).	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	25

<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 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>	Analysis of current bibliography	40
	Hours for private study of the student	60
	<b>Total (hours)</b>	<b>100</b>
<p><b>STUDENT ASSESSEMENT</b></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>	Written examination after the end of the semester	

## 5. 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.

# COURSE OUTLINE MED\_883

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_883	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	Pediatric Surgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Science and Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek and English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes, Since now HELMSIC students have participated		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=113">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=113</a>		

## 2. 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

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

### 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*

*Adjustment to new conditions*

*Decision taking*

*Autonomous work*

*Team work*

*International cooperation*

*Inter-scientific cooperation*

*Production of new investigative ideas*

*Criticism and self-criticism and evaluation*

*Production of free, creative and inductive way of reasoning*

### 3. COURSE CONTENT

Head and Cervical diseases

Cleft lip and palate, Ranula, Ear appendages and fistulas, Torticollis, Thyroglossal duct cyst, Dermoids, Branchial apparatus disorders, lymphangiomatous 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Teaching in small groups, interactive teaching, teaching in the operative theater, teaching of surgical skills and abilities	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of Information and Communication Technologies (ICTs) in teaching.	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Teaching	85
	Operation	20
	Surgical techniques instructions	20
	<b>Total (hours)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Oral examination Theoretical knowledge testing Practical application of knowledge	

#### 5. RECOMMENDED LITERATURE

Literature in Greek:  
 "Contemporary Pediatric Surgery - Diagnosis and Treatment"  
 Author: G. Vaos  
 Book Code on Evdoxos: [13256999]

"Principles of Pediatric Surgery and Pediatric Urology"  
 Author: S. Gardikis  
 Book Code on Evdoxos: [320275] *Journals Journal of Pediatric Surgery*  
*European Journal of Pediatric Surgery*  
*Pediatric Surgery International*

## COURSE OUTLINE MED\_880

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_880	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	PHYSICAL MEDICINE & REHABILITATION		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES		4 h/week	4
CLINICAL PRACTICE		1 h/week	1
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).		Total of 20 h of lectures and 5 h of clinical practice	5
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Scientific area, expertise		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>			
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/main/portfolio.php">https://eclass.upatras.gr/main/portfolio.php</a>		

### 2. LEARNING OUTCOMES

#### Lerning 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 course is an introduction in Physical Medicine & Rehabilitation

Basic knowledge in Physical Medicine & Rehabilitation 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. 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**

*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*

- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

### 3. COURSE CONTENT

#### Lectures

- General principles of rehabilitation and the bio-psycho-social model of the international classification of functioning, disability and health (ICF).
- Interdisciplinary rehabilitation team. Design a rehabilitation plan.
- Diagnostic tools and assessments of functional capacity, activity and participation.
- Rehabilitation of cerebral injuries
- Rehabilitation of stroke
- Rehabilitation of spinal cord injuries
- Rehabilitation of musculoskeletal diseases
- Prevention and management of complications
- Rehabilitation technology

#### Clinical Practice

- Introduction to physical medicine and rehabilitation
- Rehabilitation of the orthopaedic patient
- Workshop in patients with spinal cord injury
- Workshop in patients with head injury

- Workshop in patients with stroke
- Prevention and management of complications

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Class, ward rounds, physiotherapy, occupational therapy and speech therapy departments.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	e-class platform	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	25
	Analysis of current bibliography	40
	Hours for private study of the student	60
	<b>Total (hours)</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	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](http://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 MED\_841

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_841	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	OTORHINOLARYNGOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25 HOURS/WEEK	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).		TOTAL: 2 WEEKS	5
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in english)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr">http://www.med.upatras.gr</a>		

## 2. 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 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

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*

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.

### 3. 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.

**4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Direct (face to face).	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Specialized software through E-CLASS Platform	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	40
	Clinical Practice	35
	Autonomous study	50
	<b>Total (hours)</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Written final examination with multiple choice questions with ranking difficulty on the basis of the issues and subjects presented during theoretical courses.	

## 5. RECOMMENDED LITERATURE

--

# COURSE OUTLINE MED\_851

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_851	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup>
<b>COURSE TITLE</b>	RADIOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		25x2	5
Tutorials		25x1	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in greek)		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED1062/">https://eclass.upatras.gr/courses/MED1062/</a>		

## 2. 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 this training course is the knowledge of the basic imaging findings in common disease and understanding the implementation of modern radiology in the diagnostic and therapeutic approach of the inpatients as well as those in primary care.



By the end of the teaching course of radiology the students will gain knowledge and skills which will help them:

- 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

*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*

- 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

### 3. 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 therapeutical interventional radiology with emphasis in their main and more common applications in clinical praxis.
- 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory</i>	Multimedia presentations in lectures Support of the Learning process by means of the e-class electronic platform

<i>education, communication with students</i>															
<p><b>TEACHING ORGANIZATION</b>  <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> <tr> <th data-bbox="651 255 1177 293"><b>Activity</b></th><th data-bbox="1177 255 1513 293"><b>Semester workload</b></th></tr> <tr> <td data-bbox="651 293 1177 327">Lectures</td><td data-bbox="1177 293 1513 327">50</td></tr> <tr> <td data-bbox="651 327 1177 360">Tutorials</td><td data-bbox="1177 327 1513 360">25</td></tr> <tr> <td data-bbox="651 360 1177 394">Private Study</td><td data-bbox="1177 360 1513 394">10</td></tr> <tr> <td data-bbox="651 394 1177 461">Analysis of current bibliography / Hours for private study of the student</td><td data-bbox="1177 394 1513 461">40</td></tr> <tr> <td data-bbox="651 461 1177 495"></td><td data-bbox="1177 461 1513 495"></td></tr> <tr> <td data-bbox="651 495 1177 528"><b>Total (hours)</b></td><td data-bbox="1177 495 1513 528"><b>125</b></td></tr> </table>	<b>Activity</b>	<b>Semester workload</b>	Lectures	50	Tutorials	25	Private Study	10	Analysis of current bibliography / Hours for private study of the student	40			<b>Total (hours)</b>	<b>125</b>
<b>Activity</b>	<b>Semester workload</b>														
Lectures	50														
Tutorials	25														
Private Study	10														
Analysis of current bibliography / Hours for private study of the student	40														
<b>Total (hours)</b>	<b>125</b>														
<p><b>STUDENT ASSESSEMENT</b>  <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 final multiple-choice examination (in greek)</p>														

## 5. RECOMMENDED LITERATURE

### FIRST RECOMMENDATION

Book Title: "Clinical Radiology"

Authors: A. Gouliamos, N. Kelekidis, A. Drevelengas, D. Siablis, K. Tsampoulas, M. Arfirovopoulou, A. Karantanis, I. Fezoulidis, P. Prassopoulos

Publisher: Ioannis Konstantaras

Year of Publication: 2012

### SECOND RECOMMENDATION

Book Title: "Concise Handbook of Anatomical Sections of Axial and Magnetic Resonance Tomography"

Author: T.B. Moeller – E. Reif

Greek Editor: Th. Petsas

Publisher: Broken Hill Publishers Ltd Year of publication: 2014

## COURSE OUTLINE MED\_881

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_881	<b>SEMESTER OF STUDIES</b>	8 <sup>th</sup>
<b>COURSE TITLE</b>	Geriatric Medicine and Gerontology		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Teaching courses		16	5
Clinical practice		8	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>	Not required		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek and English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	-		

### 2. 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*

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**

*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*

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

### **3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Group teaching	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Power point slides	
<b>TEACHING ORGANIZATION</b> <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. 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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	16
	Practice in the ward	8
	Homework	40
	Analysis of current bibliography / Hours for private study of the student	60
	<b>Total (hours)</b>	<b>125</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	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.	
	No final examination will be required	

#### 5. RECOMMENDED LITERATURE

MERCK - Textbook of Geriatric, BERKOW ROBERT, BEER H. MARK  
 - Brocklehurst's Textbook of Geriatric Medicine and Gerontology, 8th Edition



## COURSE OUTLINE MED\_874

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_874	<b>SEMESTER OF STUDIES</b>	Eighth
<b>COURSE TITLE</b>	PUBLIC HEALTH NUTRITION		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	5
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED861/">https://eclass.upatras.gr/courses/MED861/</a>		

### 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>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.</p> <p>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.</p> <p>Upon successful completion of the course the student will be able to:</p> <ol style="list-style-type: none"> <li>1. to identify nutrition-related public health problems relevant at the local, regional, national and international levels</li> <li>2. to identify causes of these problems</li> <li>3. to evaluate the impact of these strategies</li> <li>4. to understand the process by which research-based evidence provides a basis for the development of public health policy</li> <li>5. ultimately, to improve nutrition-related health by applying evidence to action to solve problems.</li> </ol>
<b>General Abilities</b>
<ul style="list-style-type: none"> <li>• Autonomous Work</li> <li>• Teamwork</li> </ul>

### 3. 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

Iodine and Iodine deficiency Disorders

Cancer and Diet

Osteoporosis and Hip Fracture

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures and seminars	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester Workload</b>
	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),	96
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>125 hours (total student work-load)</b>
<b>STUDENT ASSESSMENT</b>	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	



	<p>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>
--	---

## 5. RECOMMENDED LITERATURE

<p>Public Health Nutrition: Michael J. Gibney, Barrie M. Margetts, John M. Kearney, Lenore Arab, 2013 John Wiley &amp; Sons.</p>
--

# COURSE OUTLINE MED\_875

## 1. GENERAL

<b>SCHOOL</b>	LIFE SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>MED_875</b>	<b>SEMESTER OF STUDIES</b>	8th (OPTIONAL COURSE)
<b>COURSE TITLE</b>	INTRODUCTION TO NUCLEAR MEDICINE		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Clinical Training		25	5
<b>COURSE TYPE</b>	Scientific Area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
The aim of "Introduction to Nuclear Medicine" is to familiarize students with the entire spectrum Nuclear Medicine applications. At the end of the course the student should be able to discriminate the principles and techniques of Nuclear Medicine from those of other imaging modalities. Most importantly, the students should be properly informed about the main diagnostic and therapeutic applications of Nuclear Medicine.
<b>General Abilities</b>
<ul style="list-style-type: none"> <li>- Study, analysis and synthesis of data, with the use of required technologic methods</li> <li>- Decision making</li> <li>- Autonomous task management</li> <li>- Team working</li> <li>- Generation of novel research ideas</li> </ul>

## 3. COURSE CONTENT

Part A. Nuclear Physics, Radiopharmaceuticals, Imaging systems, types of Nuclear Medicine studies (planar, SPECT, PET, 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"

## 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Attendance at the Department of Nuclear Medicine, University General Hospital of Patras
------------------------	---

<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	- Lectures by the use of "PowerPoint" . - Demonstration of various devices and Imaging Systems of the Laboratory (SPECT/CT and PET/CT systems, dose calibrator, survey meter, Mo/Tc generator, etc). - Use of the Web.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester Hours</b>
	Lectures	10
	Explanation of the function of devices and Imaging Systems of the Laboratory	10
	Presentation of illustrative cases from the daily routine. Making the diagnosis and differential diagnosis.	80
	Analysis of current bibliography / Hours for private study of the student	25
	Total Hours	<b>125</b>
<b>STUDENT ASSESSMENT</b>	Assessment is undertaken by oral exams in the Greek language.	

## 5. 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

## 9<sup>th</sup> and 10<sup>th</sup> Semester

### COURSE OUTLINE MED\_941

#### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_941	<b>SEMESTER OF STUDIES</b>	9 <sup>th</sup> & 10 <sup>th</sup>
<b>COURSE TITLE</b>	OBSTETRICS AND GYNAECOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		35	8
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>	Not required		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	-		

#### 2. 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

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 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.

#### **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*

*Team work*

*Working independently*

*Promote free, creative and inductive thinking*

### **3. COURSE CONTENT**

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Face to face lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Specialized online platform, e-class	
<b>TEACHING ORGANIZATION</b> <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,</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	140
	Medical rounds	
	Participation in every day clinical practice	
	Case presentations	
	Case based discussions	
	Observing/assisting surgical procedures	

<i>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>	Analysis of current bibliography / Hours for private study of the student	60
	<b>Total (hours)</b>	<b>200</b>
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Multiple choice questions – written exams. Oral – case based discussion. Participation in the every day clinical practice of the department.	

## 5. RECOMMENDED LITERATURE

*Obstetrics and Gynaecology, Antsaklis, Parisianos Editions, 2010 edition*

*Principles of Obstetrics and Gynaecology, Messinis, Parisianos Editions, 2010 edition*

# COURSE OUTLINE MED\_931

## 1. GENERAL

SCHOOL		HEALTH SCIENCES		
DEPARTMENT		FACULTY OF MEDICINE		
LEVEL OF COURSE		Undergraduate		
COURSE CODE		MED_931	SEMESTER OF STUDIES	9 <sup>th</sup> and 10 <sup>th</sup>
COURSE TITLE		Surgery		
INDEPENDENT TEACHING ACTIVITIES			TEACHING HOURS PER WEEK	ECTS CREDITS
LECTURES - ON BED TRAINING - OR PARTICIPATION			35/week, 6 weeks	10
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)				

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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.</p>
<b>General Abilities</b>

*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*

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Face to face, e-class.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of I.C.T (eg Powerpoint) in teaching. The lectures are uploaded on the Internet (e-class).	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	Ward rounds	65
	Lectures	65
	Surgical cases presentation	25
	Participation on call duties	45
	Personal study	10
	<b><i>Total number of hours for the Course</i></b>	<b><i>210</i></b>
<b>STUDENT ASSESSMENT</b>	Written assessment  Minimum passing grade: 5	

### 5. RECOMMENDED LITERATURE

D. Voros, Surgery, 2<sup>nd</sup> edition, Parisianou A.E. 2014  
 I. Kanelos, General Surgery 3<sup>rd</sup> edition ROTONTA 2021  
  
 E-class notes





# COURSE OUTLINE MED\_921

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	921	<b>SEMESTER OF STUDIES</b>	9 <sup>th</sup> & 10 <sup>th</sup>
<b>COURSE TITLE</b>	PAEDIATRICS (5 <sup>th</sup> YEAR)		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		5	
Seminars		5	
Clinical Practice		20	
<b>TOTAL</b>		<b>30</b>	<b>8</b>
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=59">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=59</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>The <b>aim</b> of the course is the <b>theoretical and practical training of medicine students in Paediatrics</b>.</p> <p>In their fifth year of studies, medical students attend clinical Paediatrics for <b>four (4) weeks per year</b> at the Paediatric Department of the University Hospital of Patras.</p> <p><b>Aims of the course:</b></p> <ul style="list-style-type: none"> <li>• Acquiring theoretical and practical knowledge in General Paediatrics</li> <li>• 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)</li> </ul> <p>By the end of this course the student is expected to develop the following skills:</p> <ul style="list-style-type: none"> <li>• Ability to obtain a detailed history</li> <li>• Ability to carry out a thorough physical examination and assess the developmental stage of the child</li> <li>• Ability to organize and record the above information as conventional or problem-oriented history</li> <li>• Ability to compile and analyze information to obtain a differential diagnosis</li> <li>• Ability to determine a management plan for the patient</li> <li>• Ability to present the above medical information in a comprehensive manner</li> <li>• General knowledge regarding the treatment options for the most common paediatric disorders</li> </ul>

<ul style="list-style-type: none"> <li>Ability to understand the pathophysiology of various diseases and their effects on the development of the patient</li> </ul>
<b>General Abilities</b>
<p>By the end of this course the student will, furthermore, have develop the following general abilities:</p> <ul style="list-style-type: none"> <li>Searching, analysis and synthesis of facts and information</li> <li>Decision making</li> <li>Autonomous (Independent) work</li> <li>Group work</li> <li>Development of novel research ideas</li> <li>Promotion of free, creative and inductive thinking</li> </ul>

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face (lectures, seminars, grand rounds)	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Communication Technologies in teaching (PowerPoint) and for bibliographic search (PubMed, Scopus)	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester work-load</b>
	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
	<b>Total number of work-load hours</b>	<b>120 hours = 8 ECTS credits</b> (15 hours of work-load per ECTS credit)
<b>STUDENT ASSESSEMNT</b>	<p>Written final examination (in Greek language) which includes:</p> <ul style="list-style-type: none"> <li>Multiple choice questions</li> <li>Short discourse questions</li> <li>Differential-diagnosis questions (clinical cases)</li> </ul>	

### 5. RECOMMENDED LITERATURE



# COURSE OUTLINE MED\_931 (Additional)

## 1. GENERAL

<b>SCHOOL</b>		Health Sciences	
<b>DEPARTMENT</b>		Medicine	
<b>LEVEL OF COURSE</b>		Undergraduate (Basic)	
<b>COURSE CODE</b>		Additional to MED_931	<b>SEMESTER OF STUDIES</b> 5 <sup>th</sup> Year (9 <sup>th</sup> -10 <sup>th</sup> semester)
<b>COURSE TITLE</b>		Intensive Care Medicine	
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		35	
Participation in educational clinical visits			
Clinical Exercise (ICU and Anesthesiology)			
			4
<b>COURSE TYPE</b>	Scientific Area		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2POSJE7XgRa?dl=0">https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2POSJE7XgRa?dl=0</a>		

## 2. LEARNING OUTCOMES

<b>Leraning outcomes</b>
<p><b>Course Objectives:</b></p> <p>Knowledge, understanding, implementation, synthesis and evaluation of intensive care and emergency medicine issues.</p> <p>In the intensive care course, the above goals are summarized in 3 categories</p> <ol style="list-style-type: none"> <li>1. - <b>Knowledge</b> of intensive care and emergency medicine</li> <li>2. - A combination of understanding and clinical / practical application of intensive care and emergency medicine (<b>skill</b>)</li> <li>3. - The ability to solve problems, transferring existing knowledge and acquired skills to new situations (<b>ability</b>)</li> </ol>
<b>General Abilities</b>

- 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

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of information and communication teaching technologies	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	Lectures	70
	Participation in educational clinical visits	
	Clinical Exercise (ICU and Anesthesiology)	
	Study and analysis of bibliography, writing of scientific papers	30
	<b><i>Total number of hours for the Course</i></b>	<b>100 hours</b>
<b>STUDENT ASSESSMENT</b>	<b>Assessment Language: Greek</b>  <b>Assessment methods:</b>	

	<ul style="list-style-type: none"> <li>• Multiple Choice Test</li> <li>• Short answer questions</li> <li>• Oral case discussions</li> </ul> <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>
--	--

## 5. RECOMMENDED LITERATURE

*Principles of Critical Care (Hall et al.),*

*PACT (ESICM),*

*Intensive Care Medicine, Critical Care Medicine, JAMA, N.Eng.Journal of Medicine*

# COURSE OUTLINE MED\_911 (additional )

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	Additional to MED_911	<b>SEMESTER OF STUDIES</b>	9 <sup>th</sup> and 10 <sup>th</sup>
<b>COURSE TITLE</b>	CARDIOLOGY CLINICAL TRAINING		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES AND CLINICAL PRACTICE		30	14
<b>COURSE TYPE</b>	SCIENTIFIC FIELD		
<b>PREREQUISITE COURSES:</b>	NO		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES (IN ENGLISH)		
<b>COURSE WEBPAGE (URL)</b>	-		

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<ol style="list-style-type: none"> <li>1. BE ABLE TO INTERVIEW CARDIOLOGY PATIENTS</li> <li>2. BE ABLE TO INTERPRET ECG</li> <li>3. BE ABLE TO INTERPRET CHEST X-RAY WITH EMPHASIS TO CARDIOLOGY SIGNS</li> <li>4. BE ABLE TO VENIPUNCTURE AND INSERT ARTERIAL CATHETER</li> <li>5. BE ABLE TO ANALYSE CHRONIC AND ACUTE CARDIOLOGY PROBLEMS</li> <li>6. BE ABLE TO USE AUTOMATIC DEFIBRILLATORS</li> <li>7. BE ABLE TO INTERPRET BASIC CARDIAC ULTRASOUND AND ANGIOGRAPHY IMAGES</li> </ol>
<b>General Abilities</b>
<ol style="list-style-type: none"> <li>1. SOLITARY WORK (DIAGNOSING BASIC CARDIAC CONDITIONS)</li> <li>2. TEAM WORK (COOPERATING IN MANAGEMENT OF ACUTE CARDIAC PROBLEMS)</li> </ol>

## 3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	IN CLINIC	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	NO	
TEACHING ORGANIZATION	Teaching Method	Semester Workload
	LECTURES	280
	PRACTICAL SKILLS	
	TEAMWORK	
	PERSONAL WORK	70
	Total number of hours for the Courses Of Med_911	350
STUDENT ASSESSMENT	ORAL EXAMS	

#### 5. RECOMMENDED LITERATURE

SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT

## COURSE OUTLINE MED\_911

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_911	<b>SEMESTER OF STUDIES</b>	9 <sup>th</sup> and 10 <sup>th</sup>
<b>COURSE TITLE</b>	INTERNAL MEDICINE-CLINICAL TRAINING		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES AND CLINICAL PRACTICE		30	14
<b>COURSE TYPE</b>	Teaching, Tutorials, Clinical training		
<b>PREREQUISITE COURSES:</b>	NO		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK (IF THERE ARE ERASMUS STUDENTS, ENGLISH LANGUAGE IS ALSO USED AT THE CLINICAL ROUNDS)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	-		

### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
The aim of the course is to educate the students of the 5 <sup>th</sup> year in the conduct of clinical practice and acquire the necessary knowledge, skills and attitudes needed in postgraduate medical practice.
<b>General Abilities</b>
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 5<sup>th</sup> 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.

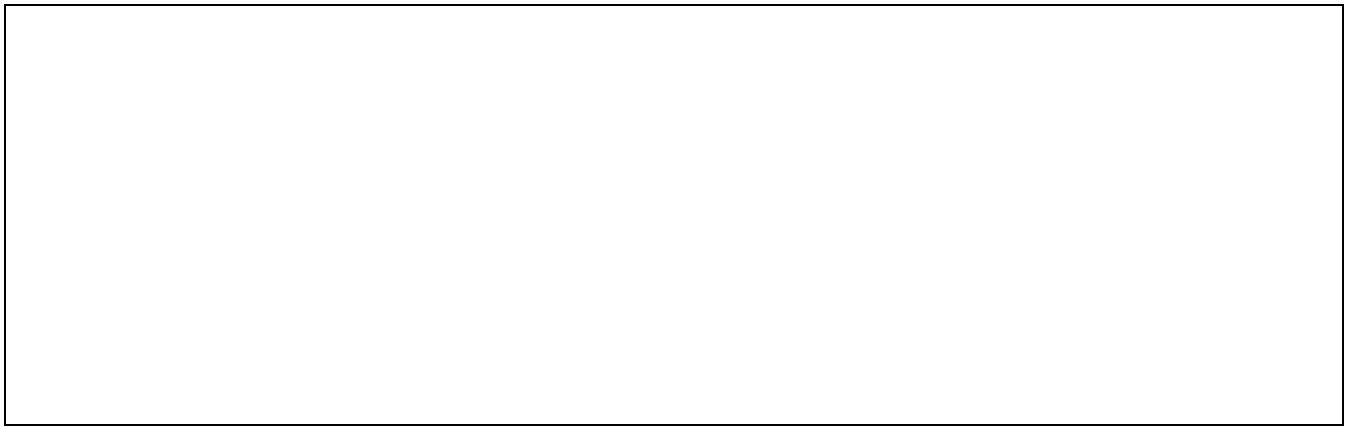
The student is trained to present clearly, briefly and comprehensively the patient to the group. Efforts should be made to expose the student to as many patients and diseases as possible. At the same time the student is given the opportunity to develop the ability to work with all the members of the 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

<b>TEACHING METHOD</b>	In small groups face to face, and tutorials in small groups	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	NO	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	LECTURES	280
	PRACTICAL SKILLS	
	TEAMWORK	
	PERSONAL WORK	70
	<b><i>Total number of hours for the Courses Of Med_911</i></b>	<b><i>350</i></b>
<b>STUDENT ASSESSMENT</b>	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 MED\_911 (additional )

**1. GENERAL**

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	Additional to MED_911	<b>SEMESTER OF STUDIES</b>	9 <sup>th</sup> and 10 <sup>th</sup>
<b>COURSE TITLE</b>	<b>NEPHROLOGY - CLINICAL TRAINING (INTERNAL MEDICINE CLINICAL TRAINING)</b>		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES AND CLINICAL PRACTICE		35	14
<b>COURSE TYPE</b>	Skills development, Scientific area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek and English (optional)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>			

**2. LEARNING OUTCOMES**

<b>Learning outcomes</b>
<p>Students during their stay attend clinical training classes in the Renal Centre.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• On patient practice. Practice and acquaintance with renal replacement methods (dialysis or peritoneal dialysis).</li> <li>• Discussion of interesting cases.</li> <li>• Clinical scenarios with nephrological interest. Differential diagnosis and treatment of patients with nephrological problems.</li> <li>• Attendance of postgraduate courses.</li> </ul>
<b>General Abilities</b>
<p>Search, analyze and synthesize data and information, using the necessary technologies</p> <p>Decision making</p> <p>Autonomous work</p> <p>Teamwork</p>

### 3. 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)

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face, Clinical training	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	NO	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	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
	<b><i>Total number of hours for the Courses Of Med_911</i></b>	<b><i>350</i></b>
<b>STUDENT ASSESSMENT</b>	Students deliver a writing assignment on a specific issue (eg: acute kidney injury, nephrotic syndrome).	

### 5. RECOMMENDED LITERATURE

Harrison's Nephrology and Acid-Base Disorders, 1<sup>st</sup> Edition, J. Larry Jameson, Joseph Loscalzo.

# COURSE OUTLINE MED\_951

## 1. GENERAL

<b>SCHOOL</b>	OF HEALTH SCIENCES		
<b>DEPARTMENT</b>	OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED 951	<b>SEMESTER</b>	9 <sup>th</sup> or 10 <sup>th</sup>
<b>COURSE TITLE</b>	Psychiatry		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		5	
Clinical practice		30	
			8
<b>COURSE TYPE</b>	Field of science		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes in Greek		
<b>COURSE WEBPAGE (URL)</b>	-		

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<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 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).</p>
<b>General Abilities</b>
<p>By the end of this course the student will be able to:</p> <ul style="list-style-type: none"> <li>• Handle acute or chronic cases of psychiatric disorders</li> <li>• Record a full medical history</li> <li>• Perform a complete psychiatric examination</li> <li>• Participate in discussion of differential diagnosis of the most common psychiatric disorders</li> <li>• Evaluate laboratory results in the context of a particular clinical phenotype</li> </ul>

- 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

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Small group teaching, performing clinical examination of patients under supervision	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Short lectures with the use of PowerPoint Search for new information in dedicated scientific sites on the Internet	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Hours during the semester</b>
	Participation in activities of the psychiatric department	105
	Clinical practice	30
	Lectures	15
	Private study	50
	<b>Total hours for the course</b>	<b>200</b>
<b>STUDENT ASSESSEMENT</b>	At the end of the training, 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 on 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.	

### 5. RECOMMENDED LITERATURE

-recommended scientific books:



1. TITLE: "Psychiatry at glance", AUTHORS: C. Katona, C. Cooper & M. Robertson ISBN : 978-960-583-075-5, EDITION : 2015 CODE EVDOXOS: 41965262 PUBLISHER: Parisianou & Co.

2. TITLE: "Handbook of Clinical Psychiatry", AUTHORS: Sadock Benjamin J., Sadock Virginia A. Editorial : Kaplan & Sadock's ISBN : 978-960-372-115-4 EDITION: 2007 CODE EYDOXOS: 25204 PUBLISHER: K. & N. LITSAS & Co

*-recommended scientific journals:*

General hospital psychiatry

Schizophrenia bulletin

American journal of psychiatry

Affective disorders

Alzheimer's and dementia

Psychosomatic medicine

# COURSE OUTLINE MED\_961

## 1. GENERAL

<b>SCHOOL</b>	OF HEALTH SCIENCES		
<b>DEPARTMENT</b>	OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED 961	<b>SEMESTER OF STUDIES</b>	9 <sup>th</sup> or 10 <sup>th</sup>
<b>COURSE TITLE</b>	Neurology-Neurosurgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		5	
Clinical practice		35	
			8
<b>COURSE TYPE</b>	Field of science		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek (or English)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	-		

## 2. LEARNING OUTCOMES

### Leraning outcomes

The main goal of student training, including 3-week training in the neurological department and 1-week 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.

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 2<sup>nd</sup> 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 (general neurology or 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 signs (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

### 3. 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 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
9. Clinical manifestations of brain tumors, spine diseases, subarachnoid hemorrhage & head injury.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Small group teaching, performing clinical examination of patients under supervision	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Short lectures with the use of PowerPoint Search for new information in dedicated scientific sites on the Internet	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	<i>Participation in activities of the neurological department</i>	105

	Clinical practice	35x4
	Lectures	15
	<i>Private study</i>	50
	<b><i>Total hours for the course</i></b>	<b><i>310</i></b>
<b>STUDENT ASSESSEMENT</b>	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.	

## 5. RECOMMENDED LITERATURE

### 1. NEXT SUMMARY OF NEUROLOGY

AUTHORS: MISULIS-HEAD

Scientific Editing: Panag. Papathanassopoulos

PUBLICATION: 2011

ISBN: 978-960-94-2717-3

CODE. EYDOXOS: 13255867

Publisher: Gotsis Konstantinos & Co.

### 2. NEUROLOGY

AUTHOR: Neumann Masuhr

Editor: Nikos Vlaikidis

ISBN: 978-960-6894-06-0

CODE. EYDOXOS: 3593

Pages: 600

Publisher: Rotonda

### 3. HANDBOOK OF NEUROSURGERY

Mark S. Greenberg

ISBN: 978-1-60406-326-4

Thieme

### 4. e-class lessons

# COURSE OUTLINE MED\_861 additional

## 1. GENERAL

<b>SCHOOL</b>	MEDICINE		
<b>DEPARTMENT</b>	ORTHOPAEDICS		
<b>LEVEL OF COURSE</b>	PRE-GRADUATE		
<b>COURSE CODE</b>	MED_861	<b>SEMESTER OF STUDIES</b>	8 <sup>TH</sup> , (9 <sup>TH</sup> or 10 <sup>TH</sup> )
<b>COURSE TITLE</b>	ORTHOPAEDICS & TRAUMATOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>	<b>TEACHING HOURS PER WEEK</b>		<b>ECTS CREDITS</b>
LECTURES	25 (2 weeks in 8 <sup>th</sup> semester)		2.5
CLINICAL PRACTICE	25 (2 weeks in 9 <sup>th</sup> or 10 <sup>th</sup> semester)		2.5
	Total of 50 h of lectures and 50 h of clinical practice		5
<b>COURSE TYPE</b>	Scientific area, expertise		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek, English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/main/portfolio.php">https://eclass.upatras.gr/main/portfolio.php</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>This course is an introduction to General Orthopaedics &amp; Traumatology</p> <p>Basic knowledge of Orthopaedics is offered to Medical students that can be applied in their future practice as general doctors in:</p> <ol style="list-style-type: none"> <li>1. Health centers</li> <li>2. Small provincial offices</li> <li>3. Regional hospitals as on call doctors of the surgical department</li> <li>4. Private offices</li> </ol> <p><b>General Educational Goals</b></p> <p>Upon completion of studentship the students would be able to:</p> <ol style="list-style-type: none"> <li>1. Identify and manage life-threatening injuries (i.e. pelvic fractures, multi-trauma patients)</li> <li>2. Identify and manage various orthopaedic emergencies (i.e. Cauda equina syndrome, amputations, open fractures, compartment syndromes).</li> <li>3. Identify and manage various acute (non-urgent) orthopaedic injuries (fractures, dislocations, infections) and provide initial stabilization (plaster cast, bracing).</li> <li>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.</li> <li>5. Identify possible complications for his/her practice and manage them accordingly.</li> <li>6. To communicate with his/her colleagues describing the problem.</li> </ol>
<b>General Abilities</b>

- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Class, ward rounds, operation theater, A & E department, Rehabilitation center	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	e-class platform	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	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
	<b><i>Total hours for the course</i></b>	<b><i>125</i></b>
<b>STUDENT ASSESSMENT</b>	I. Written examination (50%) [multiple choice or full text]	
	II. Oral examination (50%) in small groups after completion of clinical practice	

## 5. 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 P. Mackenzie, and Timothy O. White</p>
---

## 11<sup>th</sup> and 12<sup>th</sup> Semester

### COURSE OUTLINE MED\_1175

#### 6. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	1175	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> & 12 <sup>th</sup>
<b>COURSE TITLE</b>	NEONATOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and clinical practice in the Neonatal Intensive Care Unit		<b>35</b>	<b>4</b>
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>			

#### 7. LEARNING OUTCOMES

<b>Leraning outcomes</b>
<p>The <b>aim</b> of the course is the <b>theoretical and practical training in Neonatology</b>.</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 <b>two (2) weeks</b>.</p> <p><b>Aim:</b> Acquiring theoretical knowledge and basic practical skills in Neonatology.</p>
<b>General Abilities</b>
<p>By the end of this course the students will have develop the following general abilities:</p> <ul style="list-style-type: none"> <li>• Searching, analysis and synthesis of facts and information</li> <li>• Decision making</li> <li>• Promotion of free, creative and inductive thinking</li> </ul>

#### 8. COURSE CONTENT

<ul style="list-style-type: none"> <li>• History and physical examination of the neonate</li> <li>• Delivery room care. Birth injuries. Neonatal transfer.</li> <li>• Transition from intrauterine to extrauterine life</li> </ul>
--



- 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

#### 9. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Face to face (lectures, practical training in the Neonatal Intensive Care Unit, the Delivery Room, and the well-baby Nursery)	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Communication Technologies in teaching (PowerPoint)	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester work-load</b>
	Lectures (35 hours per week x 2 weeks)	70
	Personal Study	30
	<b>Total number of work-load hours</b>	<b>100 hours = 4 ECTS credits</b>
<b>STUDENT ASSESSEMENT</b>	Written final examination with multiple choice questions	

#### 10. 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*

# COURSE OUTLINE MED\_1164

## 1. GENERAL

<b>SCHOOL</b>	Faculty of Health Sciences		
<b>DEPARTMENT</b>	Medical School		
<b>LEVEL OF COURSE</b>	Pregraduate		
<b>COURSE CODE</b>	MED_1164	<b>SEMESTER OF STUDIES</b>	9-12
<b>COURSE TITLE</b>	Rheumatology Clinic		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Practical training in Rheumatology		30	
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek- English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (English)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. 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

### 3. COURSE CONTENT

Practical traing in Rheumatology

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Practical training in the Clinic	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Practical training in the Clinic	6 hours/ day for 2 weeks
	Personal Study	40
	<b>Total</b>	<b>100</b>
<b>STUDENT ASSESSEMNT</b>	Verbal examination at the end of the clinic	

### 5. RECOMMENDED LITERATURE

# COURSE OUTLINE MED\_1160

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED1160	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup>
<b>COURSE TITLE</b>	CLINICAL HEMATOLOGY AND MOLECULAR TARGETED TREATMENT		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
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	
<b>COURSE TYPE</b>	Scientific area and Skills Development		
<b>PREREQUISITE COURSES:</b>	PATHOLOGY AND HEMATOPATHOLOGY, INTEGRATED NOSOLOGY OF THE HEMATOPOIETIC SYSTEM		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	Under construction		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>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.</p> <p>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).</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Be aware of the currently applied classification systems of the neoplastic and the non-neoplastic hematopoietic tissue disorders.</li> </ul>

- 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*

### **3. 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 patient with haemorrhagic manifestations.
- Transfusion medicine. Indications for whole blood and blood products' transfusions. Thepautic and donative 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.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	<p>Interactive lectures of thematic sections</p> <p>Participation in teamwork activities, visits at the inpatient hematology wars and monitoring of outpatients with hematological disorders in the outpatient clinic</p> <p>Training in morphology and diagnostic microscopy of the peripheral blood, the hematopoietic bone marrow and the lymph nodes</p>	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	<p>Teaching for the use of light microscopy</p> <p>Training in scientific literature search and in retrieving and documentation of information from bibliographic databases (PubMed, Web of Science etc)</p> <p>Support of the learning process by uploading educational material to the e-class platform</p>	
<b>TEACHING ORGANIZATION</b>	<b>Teaching Method</b>	<b>Semester Workload</b>
	Lectures	10
	Clinical teamwork	27
	Outpatient Clinic teamwork	36
	Tutorial on microscopy	9
	Self-study	18
	<b>Total number of hours for the Course</b>	<b>100</b>
<b>STUDENT ASSESSMENT</b>	<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>	

	Possibility to develop research initiatives and appropriate assessment
--	--

## 5. RECOMMENDED LITERATURE

### ***Textbooks:***

**Williams Hematology, 9<sup>th</sup> Edition 2016**

**Wintrobe's Clinical Hematology, 14<sup>th</sup> 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

# COURSE OUTLINE MED\_1158

## 1. GENERAL

<b>SCHOOL</b>	MEDICINE		
<b>DEPARTMENT</b>	ORTHOPAEDICS		
<b>LEVEL OF COURSE</b>	PRE-GRADUATE		
<b>COURSE CODE</b>	1158	<b>SEMESTER OF STUDIES</b>	11 <sup>TH</sup> or 12 <sup>TH</sup>
<b>COURSE TITLE</b>	ORTHOPAEDICS		
<b>INDEPENDENT TEACHING ACTIVITIES</b>	<b>TEACHING HOURS PER WEEK</b>		<b>ECTS CREDITS</b>
<b>CLINICAL PRACTICE</b>	25 (2 weeks in 11 <sup>th</sup> or 12 <sup>th</sup> semester)		4
	Total of 50 h of clinical practice		
<b>COURSE TYPE</b>	Scientific area, expertise		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek, English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/main/portfolio.php">https://eclass.upatras.gr/main/portfolio.php</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>This course is an introduction to General Orthopaedics &amp; Traumatology</p> <p>Basic knowledge of Orthopaedics is offered to Medical students that can be applied in their future practice as general doctors in:</p> <ol style="list-style-type: none"> <li>1. Health centers</li> <li>2. Small provincial offices</li> <li>3. Regional hospitals as on call doctors of the surgical department</li> <li>4. Private offices</li> </ol> <p><b>General Educational Goals</b></p> <p>Upon completion of studentship the students would be able to:</p> <ol style="list-style-type: none"> <li>1. Identify and manage life-threatening injuries (i.e. pelvic fractures, multi-trauma patients)</li> <li>2. Identify and manage various orthopaedic emergencies (i.e. Cauda equina syndrome, amputations, open fractures, compartment syndromes).</li> <li>3. Identify and manage various acute (non-urgent) orthopaedic injuries (fractures, dislocations, infections) and provide initial stabilization (plaster cast, bracing).</li> <li>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.</li> <li>5. Identify possible complications for his/her practice and manage them accordingly.</li> <li>6. To communicate with his/her colleagues describing the problem.</li> </ol> <p><b>General Abilities</b></p>



- Searching, interpretation and synthesis of data and information.
- Adaptation in new environment
- Decision making
- Individual work-up
- Team work

### 3. COURSE CONTENT

#### 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  
 Student evaluation

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Ward rounds, operation theater, A & E department, Rehabilitation center	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	e-class platform	
<b>TEACHING ORGANIZATION</b>	<b>Teaching Method</b>	<b>Semester Workload</b>
	Clinical practice - lessons	40
	Interactive teaching	10
	Ward rounds	5
	Operation theater	5
	Practice in A & E and rehabilitation center	5
	<i>Personal Study</i>	35
	<b>Total</b>	<b>100</b>

<b>STUDENT ASSESSMENT</b>	I. Oral examination (50%) in small groups after completion of clinical practice
---------------------------	---

## 5. RECOMMENDED LITERATURE

Orthopedics and Traumatology, Elias E. Lampiris, Medical Publications P. H. Paschalidis, 2007

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

# COURSE OUTLINE MED\_1124

## 1. GENERAL

<b>SCHOOL</b>	MEDICINE		
<b>DEPARTMENT</b>	ORTHOPAEDICS		
<b>LEVEL OF COURSE</b>	PRE-GRADUATE		
<b>COURSE CODE</b>	MED_1124	<b>SEMESTER OF STUDIES</b>	11 <sup>TH</sup> or 12 <sup>TH</sup>
<b>COURSE TITLE</b>	OBSTETRICS AND GYNAECOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		35	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
<b>PREREQUISITE COURSES:</b>	Not required		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	-		

## 2. 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

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 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.

#### 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*  
*Team work*  
*Working independently*  
*Promote free, creative and inductive thinking*

### 3. COURSE CONTENT

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b> <i>Face-to-face, Distance learning, etc.</i>	Face to face lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Specialized online platform, e-class	
<b>TEACHING ORGANIZATION</b> <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. The student's study hours for each learning activity are</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	105
	Medical rounds	
	Participation in every day clinical practice	
	Case presentations	
	Case based discussions	
	Observing/assisting surgical procedures	
	<b>Total (hours)</b>	<b>105</b>

<i>given as well as the hours of non-directed study according to the principles of the ECTS</i>	
<b>STUDENT ASSESSEMENT</b> <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 given, and if and where they are accessible to students</i>	Multiple choice questions – written exams. Oral – case based discussion. Participation in the every day clinical practice of the department.

#### 5. RECOMMENDED LITERATURE

*Obstetrics and Gynaecology, Antsaklis, Parisianos Editions, 2010 edition*

*Principles of Obstetrics and Gynaecology, Messinis, Parisianos Editions, ,2010 edition*

# COURSE OUTLINE MED\_1123

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	1123	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> & 12 <sup>th</sup>
<b>COURSE TITLE</b>	PAEDIATRICS (6 <sup>th</sup> YEAR)		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		5	
Seminars		5	
Clinical Practice		20	
In-house duty		7	
<b>TOTAL</b>		<b>37</b>	<b>12</b>
<b>COURSE TYPE</b>	Field of Science and Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=81">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=81</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>The <b>aim</b> of the course is the <b>theoretical and practical training of medicine students in Paediatrics</b>.</p> <p>In their sixth year of studies, medical students attend clinical Paediatrics for <b>six (6) weeks per year</b> at the Paediatric Department of the University Hospital of Patras.</p> <p><b>Aims of the course:</b></p> <ul style="list-style-type: none"> <li>• Acquiring theoretical and practical knowledge in General Paediatrics</li> <li>• 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)</li> </ul> <p>By the end of this course the student is expected to develop the following skills:</p> <ul style="list-style-type: none"> <li>• Ability to obtain a detailed history</li> <li>• Ability to carry out a thorough physical examination and assess the developmental stage of the child</li> <li>• Ability to organize and record the above information as conventional or problem-oriented history</li> <li>• Ability to compile and analyze information to obtain a differential diagnosis</li> <li>• Ability to determine a management plan for the patient</li> <li>• Ability to present the above medical information in a comprehensive manner</li> <li>• General knowledge regarding the treatment options for the most common paediatric disorders</li> </ul>

<ul style="list-style-type: none"> <li>Ability to understand the pathophysiology of various diseases and their effects on the development of the patient</li> </ul>
<b>General Abilities</b>
<p>By the end of this course the student will, furthermore, have develop the following general abilities:</p> <ul style="list-style-type: none"> <li>Searching, analysis and synthesis of facts and information</li> <li>Decision making</li> <li>Autonomous (Independent) work</li> <li>Group work</li> <li>Development of novel research ideas</li> <li>Promotion of free, creative and inductive thinking</li> </ul>

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face (lectures, seminars, grand rounds)	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Communication Technologies in teaching (PowerPoint) and for bibliographic search (PubMed, Scopus)	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester work-load</b>
	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
	Personal Study	128
	<b>Total number of work-load hours</b>	<b>250 hours = 12 ECTS credits</b>
<b>STUDENT ASSESSEMNT</b>	<p>Written final examination (in Greek language) which includes:</p> <ul style="list-style-type: none"> <li>Multiple choice questions</li> <li>Short discourse questions</li> <li>Differential-diagnosis questions (clinical cases)</li> </ul>	

## 5. RECOMMENDED LITERATURE

*Nelson Textbook of Pediatrics, 20<sup>th</sup> ed. Elsevier, 2016*



# COURSE OUTLINE MED\_1176

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_1176	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> & 12 <sup>th</sup>
<b>COURSE TITLE</b>	ELECTIVE IN VASCULAR SURGERY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35	4
<b>COURSE TYPE</b>	Clinical skills development		
<b>PREREQUISITE COURSES:</b>	None		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>Acquisition of medical history focused on vascular diseases.</p> <p>Practice of physical examination in patients with vascular diseases.</p> <p>Ability to perform differential diagnosis of common vascular diseases.</p> <p>Learn the basics of investigation for vascular diseases.</p> <p>Recognition of vascular structures and comprehension of basic vascular surgery techniques during open and endovascular procedures.</p>

General Abilities
<i>Adaptability in a new environment</i> <i>Decision making</i> <i>Autonomous work</i>

### 3. COURSE CONTENT

Diseases of arteries, veins and lymphatic vessels. Diabetic foot.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	Activity	Semester workload
	Clinical training	70 hours
	Personal Study	30
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>100 hours (total student work-load)</b>
STUDENT ASSESSEMENT	Clinical examination and patient assessment.	

### 5. RECOMMENDED LITERATURE

*European Journal of Vascular and Endovascular Surgery, Journal of Vascular Surgery*

# COURSE OUTLINE MED\_1171

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_1171	<b>SEMESTER OF STUDIES</b>	11th and 12th (elective)
<b>COURSE TITLE</b>	RADIOBIOLOGY -RADIOTHERAPY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Clinical Training		35x2	4
<b>COURSE TYPE</b>	Skills Development		
<b>PREREQUISITE COURSES:</b>	Medical Physics		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in english)		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED858/">https://eclass.upatras.gr/courses/MED858/</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>The aim of this course is to present:</p> <ul style="list-style-type: none"> <li>• the main mechanisms of action of ionizing radiation in cells and organisms</li> <li>• methods of protection against the use of ionizing radiation in medicine</li> <li>• their application in the treatment of malignant and non-malignant diseases</li> </ul>
<b>General Abilities</b>
<ul style="list-style-type: none"> <li>• Searching, analysis and synthesis of facts and information, as well as using the necessary technologies</li> <li>• Adaptation to new situations</li> <li>• Decision making</li> </ul>

- Autonomous (Independent) work
- Group work
- Work in a interdisciplinary environment
- Promotion of free, creative and inductive thinking

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Clinical Training - Job shadowing	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Support of the Learning process by means of the e-class electronic platform	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Clinical Training	70
	Personal Study	30
	<b>Total</b>	<b>100</b>
<b>STUDENT ASSESSMENT</b>	Oral assessment Clinical Examination of Patients	

### 5. RECOMMENDED LITERATURE

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

# COURSE OUTLINE MED\_1174

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_1174	<b>SEMESTER OF STUDIES</b>	11th and 12th (elective)
<b>COURSE TITLE</b>	CLINICAL TRAINING IN RADIOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Seminar Lectures		2,5x2	
Clinical Training		35x2	4
<b>COURSE TYPE</b>	Skills Development		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in greek)		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED1155/">https://eclass.upatras.gr/courses/MED1155/</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<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 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</p>
<b>General Abilities</b>
<ul style="list-style-type: none"> <li>• Searching, analysis and synthesis of facts and information, as well as using the necessary technologies</li> <li>• Adaptation to new situations</li> <li>• Decision making</li> <li>• Autonomous (Independent) work</li> <li>• Group work</li> <li>• Work in a interdisciplinary environment</li> <li>• Promotion of free, creative and inductive thinking</li> </ul>

## 3. COURSE CONTENT

<p>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.</p>
--

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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

4. 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	Activity	Semester workload
	Seminars	5
	Clinical Training	70
	Personal Study	25
	Total	100
STUDENT ASSESSMENT	Comprehensive assessment of the student participation in the procedures of the Clinical Radiology Laboratory	

#### 5. RECOMMENDED LITERATURE

##### FIRST RECOMMENDATION

Book Title: "Clinical Magnetic Resonance Imaging"

ISBN: 9789606802508

Publisher: Ioannis Konstantaras

##### SECOND RECOMMENDATION

Book Title: "Concise Handbook of Axial and Magnetic Resonance Tomographic Anatomy"

Author: T.B. Moeller – E. Reif

Greek Editor: Th. Petsas

Publisher: Broken Hill Publishers Ltd

Year of publication: 2014

# COURSE OUTLINE MED\_1169

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_1169	<b>SEMESTER OF STUDIES</b>	12th
<b>COURSE TITLE</b>	IMMUNOHEMATOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		4	4
<b>COURSE TYPE</b>	Elective course. Fields of Science (Immunology and Hematology) and Skills Development (perform and interpret experiments, learning immunological methods, learning to write scientific articles)		
<b>PREREQUISITE COURSES:</b>	Basic Immunology and Hematology		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be however performed in English in case ERASMUS students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>At the end of the course the students should have:</p> <p>A good knowledge of current topics of clinical immunology and immunohematology.</p> <p>A good knowledge of the types of immunotherapies already applied to patients or they're being developed.</p> <p>A good knowledge and ability to plan experiments to solve problems related to immune disease pathogenesis.</p> <p>Optional:</p> <p>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.</p> <p>Learned how to write scientific articles in immunology topics.</p>
<b>General Abilities</b>
<p>Autonomous work</p> <p>Teamwork</p> <p>Work in an international environment</p>

## 3. COURSE CONTENT

<p>The cells of the immune system - types, functions, communication</p> <p>Immune tolerance</p> <p>Antibodies - types, functions</p> <p>Vaccines</p> <p>The HLA system</p> <p>Malfunctions of the immune system -</p> <ul style="list-style-type: none"> <li>- Hypersensitivity reactions</li> <li>- Autoimmune diseases</li> <li>- Neoplasias</li> </ul> <p>Immunology of transplantation</p> <p>The immune system and HIV/AIDS</p> <p>Immunomodulation -</p>
--

- 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

**4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b>	In the classroom and in the lab. Face to face for problem solving.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Lectures and tutorials using ICT. Support of learning process through the e-class platform.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	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
	<b>Total number of hours for the Course (25 hours of work-load per ECTS credit)</b>	<b>100</b>
<b>STUDENT ASSESSMENT</b>	<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"> <li>1. The students are given 15 questions of which they have to answer 10 and hand in their answers within 2 weeks.</li> <li>2. If the students choose to do a laboratory project, they hand in their reports with their results and interpretation thereof within 1 month.</li> <li>3. If the students opt to try and write a paper, they hand in their paper within 6 months, which is then evaluated.</li> </ol> <p>The evaluation criteria can be found in the e-class platform.</p>	

**5. RECOMMENDED LITERATURE**

Textbook: Lippincott's Illustrated Reviews: Immunology", 2<sup>nd</sup> 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.



# COURSE OUTLINE MED\_1163

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE - OPTIONAL		
<b>COURSE CODE</b>	MED_1163	<b>SEMESTER OF STUDIES</b>	ELEVENTH & TWELFTH
<b>COURSE TITLE</b>	GASTROENTEROLOGY - HEPATOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35	4
<b>COURSE TYPE</b>	FIELD OF SCIENCE		
<b>PREREQUISITE COURSES:</b>	NO		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=97">http://www.med.upatras.gr/gr/Pages/undergrad/courses.aspx?IID=97</a>		

## 2. 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*

## 3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Lectures face to face.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of Information and Communication Technologies (ICTs) (PowerPoint slides) in teaching.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Clinical exercise	70
	Personal Study	30
	<b>Total</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b>	Oral examination by the Teaching staff of the department at the end of the course.	

#### 5. 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

# COURSE OUTLINE MED\_1161

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>MED_1161</b>	<b>SEMESTER OF STUDIES</b>	11-12
<b>COURSE TITLE</b>	CLINICAL ENDOCRINOLOGY		
		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35	4
<b>COURSE TYPE</b>	SCIENTIFIC AREA		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>	eclass.upatras.gr		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>Disease definition</p> <p>Pathogenesis</p> <p>Clinical signs and symptoms</p> <p>Laboratory work-up</p> <p>Diagnosis</p> <p>Differential diagnosis</p> <p>Therapy</p> <p>Development of the clinical skills in taking the medical history and performing the physical examination</p> <p>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.</p>
<b>General Abilities</b>
<p>Data and information gathering, analysis and synthesis</p> <p>Decision making</p> <p>Autonomic and team work</p>

## 3. 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

Thyroiditis

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

Paget's 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



#### 4. 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	<b>Activity</b>	<b>Semester workload</b>
	Medical History taking and writing	70
	Physical Examination	
	Evaluation of laboratory tests	
	Dynamic tests	
	Neck and thyroid ultrasound	
	<b><i>Fine needle aspiration of thyroid nodules</i></b>	
	<i>Personal Study</i>	30
STUDENT ASSESSEMNT	<b>Total</b>	<b>100</b>
	Greek and English language Oral examination	

#### 5. RECOMMENDED LITERATURE

Harrison's Principles of Internal Medicine  
*Davidson's Internal Medicine,*  
*The Endocrine System at a Glance (Ben Greenstein, Diana Wood)*

# COURSE OUTLINE MED\_1159

## 1. GENERAL

<b>SCHOOL</b>	Health Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate (Basic)		
<b>COURSE CODE</b>	MED_1159	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup> Year (11 <sup>th</sup> -12 <sup>th</sup> semester)
<b>COURSE TITLE</b>	Intensive Care Medicine		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		10	4
Participation in educational clinical visits		5	
Clinical Exercise (ICU and Anesthesiology)		5	
Study and analysis of bibliography, writing of scientific papers		1	
		21 hours (total)	
<b>COURSE TYPE</b>	Scientific Area		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2POSJE7XgRa?dl=0">https://www.dropbox.com/sh/v8uugt2bd9mkh8e/AABLuEQrrFqZnP2POSJE7XgRa?dl=0</a>		

## 2. LEARNING OUTCOMES

<b>Leraning outcomes</b>
<p><b>Course Objectives:</b>  Knowledge, understanding, implementation, synthesis and evaluation of intensive care and emergency medicine issues.</p> <p>In the intensive care course, the above goals are summarized in 3 categories</p> <ol style="list-style-type: none"> <li>1. - <b>Knowledge</b> of intensive care and emergency medicine</li> <li>2. - A combination of understanding and clinical / practical application of intensive care and emergency medicine (<b>skill</b>)</li> <li>3. - The ability to solve problems, transferring existing knowledge and acquired skills to new situations (<b>ability</b>)</li> </ol>
<b>General Abilities</b>

- 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

### 3. 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

### 4. 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	Teaching Method	Semester Workload
	Lectures	20
	Participation in educational clinical visits	10
	Clinical Exercise (ICU and Anesthesiology)	10
	Study and analysis of bibliography, writing of scientific papers	5
	Personal Study	55
	<b>Total number of hours for the Course</b>	<b>100 hours</b>
STUDENT ASSESSMENT	<b>Assessment Language: Greek</b>  <b>Assessment methods:</b>	

	<ul style="list-style-type: none"> <li>• Multiple Choice Test</li> <li>• Short answer questions</li> <li>• Oral case discussions</li> </ul> <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>
--	--

## 5. RECOMMENDED LITERATURE

*Principles of Critical Care (Hall et al.),*

*PACT (ESICM),*

*Intensive Care Medicine, Critical Care Medicine, JAMA, N.Eng.Journal of Medicine*

# COURSE OUTLINE MED\_1162

## 1. GENERAL

<b>SCHOOL</b>	Medical Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Pre graduate		
<b>COURSE CODE</b>	MED_1162	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> and 12 <sup>th</sup> (optional)
<b>COURSE TITLE</b>	NEPHROLOGY - CLINICAL TRAINING		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35	4
<b>COURSE TYPE</b>	Skills development, Scientific area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek and English (optional)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>Students during their stay attend clinical training classes in the Renal Centre.</p> <p>Learning objectives:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• On patient practice.</li> <li>• Practice and acquaintance with renal replacement methods (dialysis or peritoneal dialysis).</li> <li>• Discussion of interesting cases.</li> <li>• Clinical scenarios with nephrological interest. Differential diagnosis and treatment of patients with nephrological problems.</li> <li>• Attendance of postgraduate courses.</li> </ul>
<b>General Abilities</b>
<p>Search, analyze and synthesize data and information, using the necessary technologies</p> <p>Decision making</p> <p>Autonomous work</p> <p>Teamwork</p>

## 3. COURSE CONTENT

<p>Active participation of students in the daily schedule of the Nephrology Clinic (medical history taking, physical examination, daily visits with physicians in clinics).</p> <p>Training next to the hospitalized patients. In the clinic are hospitalized patients suffering from:</p>
--

- 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)

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face, Clinical training	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	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	35
	<b>Total</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b>	<ul style="list-style-type: none"> <li>• Students deliver a writing assignment on a specific issue (eg: acute kidney injury, nephrotic syndrome).</li> </ul>	

#### 5. RECOMMENDED LITERATURE

Harrison's Nephrology and Acid-Base Disorders, 1<sup>st</sup> Edition, J. Larry Jameson, Joseph Loscalzo.

# COURSE OUTLINE MED\_1172

## 1. GENERAL

<b>SCHOOL</b>	Health Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_1172	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> - 12 <sup>th</sup> / 6 <sup>th</sup> year
<b>COURSE TITLE</b>	Andrology (elective clinical training)		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Clinical practice		35	4
<b>COURSE TYPE</b>	Scientific field		
<b>PREREQUISITE COURSES:</b>	Urology		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (English)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=106">http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=106</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>Level Index: 6</p> <p>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.</p>
<b>General Abilities</b>

*Clinical decision making, Working in an international setting, Development of research ideas*

### **3. 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 the conditions of priapism, Peyronie's disease, endocrine dysfunction related to the genital system as well the clinical and laboratory investigation of sexual dysfunction are presented.

In 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 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) The normal sexual function, 5) Prerequisites for normal erectile function, 6) Physical examination, 7) Particular diagnostic tests concerning sexual dysfunction, 8) Categories of erectile dysfunction, 9) Peyronie's disease, 10) Priapism,

11) Treatment of sexual dysfunction

Male 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) 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

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**



<b>TEACHING METHOD</b>	Lectures	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Audiovisual (PowerPoint)	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	70
	Personal Study	30
	<b>Total</b>	<b>100 hours</b>
<b>STUDENT ASSESSEMENT</b>	Oral exam  Greek, English (Erasmus)	

#### 5. RECOMMENDED LITERATURE

Contemporary Management of Impotence and Infertility, E. Tanagho, T Lue, R. Dale McClure,,edit, Williams & 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

# COURSE OUTLINE MED\_1155

## 1. GENERAL

<b>SCHOOL</b>	LIFE SCIENCES		
<b>DEPARTMENT</b>	SCHOOL OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED1155</b>	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> -12 <sup>th</sup>
<b>COURSE TITLE</b>	ELECTIVE CLINICAL TRAINING IN MICROBIOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Clinical Training		25	4
<b>COURSE TYPE</b>		Scientific Area	
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>		Greek	
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>		NO	
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<p>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:</p> <ul style="list-style-type: none"> <li>• Cultures of biological fluids (urine, blood, pus), conventional and automated microbe identification techniques, as well as and antimicrobials sensitivity tests (1<sup>st</sup> week).</li> <li>• Serological tests such as agglutination test, immunofluorescence, ELISA, CMEIA, nephelometry, immunofixation and the use of automatic analyzers (2<sup>nd</sup> week)</li> <li>• Critical evaluation of laboratory data, establishment of diagnostic algorithms in the context of specific clinical problem, effective communication with their clinical counterparts.</li> <li>• Active involvement in Microbiology-Immunology-Clinical Biochemistry courses (curriculum designed for Clinical Pathology residents).</li> </ul>
<b>General Abilities</b>
<p>Study, analysis and synthesis of data, with the use of required technologic methods</p> <p>Decision making</p> <p>Autonomous and Team working</p> <p>Generation of novel research ideas</p>

## 3. COURSE CONTENT

<ul style="list-style-type: none"> <li>• 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.</li> </ul>
--

- Precise and effective communication with clinical counterparts.
- Participation in training courses designed for Biopathology residents.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

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

#### 5. RECOMMENDED LITERATURE

- 1) "Review of Medical Microbiology and Immunology," 11th edition, by Warren Levinson (original edition 2013). Medical Microbiology and Immunology Review, Scientific Editions Parisian S.A., 2016.
- 2) "Medical Microbiology," 5th edition, by Murray, Rosenthal, Pfaller (original edition 2008). Medical Microbiology, Scientific Editions Parisian S.A., 2010.

## COURSE OUTLINE MED\_1152

### 1. GENERAL

<b>SCHOOL</b>		Health Sciences	
<b>DEPARTMENT</b>		Medicine	
<b>LEVEL OF COURSE</b>		Undergraduate	
<b>COURSE CODE</b>	MED_1152	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> -12 <sup>th</sup> / 6 <sup>th</sup> year
<b>COURSE TITLE</b>	Clinical Training in Urology (elective)		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Clinical Training		35	4
<b>COURSE TYPE</b>	Skill development		
<b>PREREQUISITE COURSES:</b>	Urology		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (English)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=86">http://www.med.upatras.gr/en/Pages/undergrad/courses.aspx?IID=86</a>		

### 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>Level Index: 6</p> <p>The main objective of this course is the exposure of medical students to the entire spectrum of conditions of the field of Urology and the development of clinical experience in the management of urologic patient through the understanding of diagnostic techniques as well as basic principles of treatment approaches.</p>
<b>General Abilities</b>
<p><i>Clinical decision making, development of professional and ethical responsibility</i></p>

### 3. COURSE CONTENT

<p>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.</p> <p>Students are practically trained and get familiarized with endourologic procedures (catheterization – cystoscopy – endoscopic surgery) and post-operative care and assessment of patients.</p> <p>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</p>
---

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

<b>TEACHING METHOD.</b>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Clinical training	60
	Lectures	10
	Personal Study	30
	<b>Total</b>	<b>100 hours</b>
<b>STUDENT ASSESSEMENT</b>	Oral test	
	Greek, English (Erasmus)	

#### 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>

# COURSE OUTLINE MED\_1121

## 1. GENERAL

<b>SCHOOL</b>	MEDICINE		
<b>DEPARTMENT</b>	INTERNAL MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_1121	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> AND 12 <sup>th</sup>
<b>COURSE TITLE</b>	INTERNAL MEDICINE-CLINICAL TRAINING		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Clinical Training and Lectures		35	12
<b>COURSE TYPE</b>	Teaching, Tutorials, Clinical training		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK (IF THERE ARE ERASMUS STUDENTS ENGLISH LANGUAGE IS ALSO USED AT THE CLINICAL ROUNDS)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>The purpose of this course is to train the students of the 6<sup>th</sup> 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.</p>
<b>General Abilities</b>
<p>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.</p>

### 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

<b>TEACHING METHOD</b>	In small groups face to face, and tutorials in small groups	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Clinical training	210
	Lectures	
	Personal Study	90
	<b>Total</b>	<b>300 hours</b>
<b>STUDENT ASSESSEMNT</b>	<p>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.</p> <p>Everyday assessment by the faculty members</p>	

## 5. RECOMMENDED LITERATURE

### COURSE OUTLINE MED\_1167

#### 1. GENERAL

SCHOOL	Medical Sciences		
DEPARTMENT	Medicine		
LEVEL OF COURSE	Pre graduate		
COURSE CODE	MED_1167	SEMESTER OF STUDIES	11 <sup>th</sup> (optional)
COURSE TITLE	Oncology Clinical Training		
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
Clinical training		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)			

#### 2. LEARNING OUTCOMES

Leraning 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

### 3. 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.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Face to face, Clinical Training		
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	25
	<b>Total number of hours for the Course</b>	<b>100</b>
<b>STUDENT ASSESSMENT</b>	Students take an oral exam at the end of their 2 weeks training.	

#### 5. RECOMMENDED LITERATURE

MANUAL OF CLINICAL ONCOLOGY , CASCIATO

# COURSE OUTLINE MED\_1154

## 1. GENERAL

SCHOOL		HEALTH SCIENCES	
DEPARTMENT		MEDICINE	
LEVEL OF COURSE		UNDERGRADUATE	
COURSE CODE	MED1154	SEMESTER OF STUDIES	ELEVENTH
COURSE TITLE		CARDIOLOGY (OPTIONAL CLINICAL ACTIVITY)	
INDEPENDENT TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	ECTS CREDITS
LECTURES AND CLINICAL PRACTICE		35	4
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)	-		

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
BE ABLE TO INTERVIEW CARDIOLOGY PATIENTS BE ABLE TO INTERPRET ECG BE ABLE TO INTERPRET CHEST X-RAY WITH EMPHASIS TO CARDIOLOGY SIGNS BE ABLE TO VENIPUNCTURE AND INSERT ARTERIAL CATHETER BE ABLE TO ANALYSE CHRONIC AND ACUTE CARDIOLOGY PROBLEMS BE ABLE TO USE AUTOMATIC DEFIBRILLATORS BE ABLE TO INTERPRET BASIC CARDIAC ULTRASOUND AND ANGIOGRAPHY IMAGES
<b>General Abilities</b>
1. SOLITARY WORK (DIAGNOSING BASIC CARDIAC CONDITIONS) 2. TEAM WORK (COOPERATING IN MANAGEMENT OF ACUTE CARDIAC PROBLEMS)

## 3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	IN CLINIC	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	NO	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	Lectures, Clinical Training	70
	Personal Study	30
	<b><i>Total number of hours for the Course</i></b>	<b><i>100</i></b>
<b>STUDENT ASSESSMENT</b>	NO EXAMS	

#### 5. RECOMMENDED LITERATURE

SCIENTIFIC DOCUMENTS PRODUCED BY THE CARDIOLOGY DEPARTMENT

# COURSE OUTLINE MED\_1168

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>MED-1168</b>	<b>SEMESTER OF STUDIES</b>	11o
<b>COURSE TITLE</b>	Cardiothoracic surgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		2	
Clinical Practice		48	
			Total 4
<b>COURSE TYPE</b>	SCIENTIFIC AREA		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	GREEK		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES (IN ENGLISH LANGUAGE)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p><b>Educational Objectives</b></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><b>Annual Scientific Seminar</b></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><b>Importance of the Course</b></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> <p>Ischemic heart disease and lung cancer still rise, especially in the geographic area covered by the University Hospital of Patras.</p> <p>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.</p>

**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

**3. 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 9indications, 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.

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	From Person to Person gradually transform into <i>peer to peer</i>	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	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
	<b><i>Total number of hours for the Course</i></b>	<b><i>100</i></b>
<b>STUDENT ASSESSMENT</b>	<ul style="list-style-type: none"><li>• Final examination which includes patient and problem management in different clinical scenarios</li><li>• Expert lecture in Cardiothoracic Surgery Topics - power point presentation at the Department Staff Meetings in hot real case scenarios.</li></ul>	

#### 5. 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>





# COURSE OUTLINE MED\_1165

## 1. GENERAL

<b>SCHOOL</b>	Medical Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Pre graduate		
<b>COURSE CODE</b>	MED_1165	<b>SEMESTER OF STUDIES</b>	6 <sup>th</sup> year (optional)
<b>COURSE TITLE</b>	INFECTIOUS DISEASES - CLINICAL TRAINING		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35	4
<b>COURSE TYPE</b>	Skills development, Scientific area		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek and English (optional)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

### Leraning 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

## 3. 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 and 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face, Clinical training	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Practical and Clinical Exercise Focusing on the Application of Methodologies in the Diagnosis and Treatment of Patients with infection in Small Groups of Students	70
	Study and analysis of literature	20
	Writing assignment	10
	<b>Total</b>	<b>100</b>
<b>STUDENT ASSESSEMNT</b>	<ul style="list-style-type: none"> <li>• Students deliver a writing assignment on a specific issue (eg: use of antibiotics, clinical syndromes).</li> <li>• Oral examination</li> </ul>	

#### 5. 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 Infectious Diseases)

# COURSE OUTLINE MED\_1170

## 1. GENERAL

<b>SCHOOL</b>	OF HEALTH SCIENCES		
<b>DEPARTMENT</b>	OF MEDICINE		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED 1170	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup>
<b>COURSE TITLE</b>	Neurosurgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		5	
Clinical practice		35	
			4
<b>COURSE TYPE</b>	Field of science		
<b>PREREQUISITE COURSES:</b>	No		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek (or English)		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	-		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<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 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 2<sup>nd</sup> 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 of Neurosurgery. 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 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.</p> <p>Finally, students are welcome to attend lectures in the neurosurgical meetings.</p>
<b>General Abilities</b>
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

### 3. 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.

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Small group teaching, performing clinical examination of patients under supervision	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Short lectures with the use of PowerPoint Search for new information in dedicated scientific sites on the Internet	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	<i>Participation in activities of the neurological department</i>	105
	Clinical practice	70
	Lectures	15
	<b>Total hours for the course</b>	<b>190</b>
<b>STUDENT ASSESSEMENT</b>	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.	

### 5. RECOMMENDED LITERATURE

1. HANDBOOK OF NEUROSURGERY  
Mark S. Greenberg  
ISBN: 978-1-60406-326-4  
Thieme
2. e-class



# COURSE OUTLINE MED\_1125

## 1. GENERAL

<b>SCHOOL</b>	MEDICAL SCHOOL		
<b>DEPARTMENT</b>	OPHTHALMOLOGY		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED 1125	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup>
<b>COURSE TITLE</b>	OPHTHALMOLOGY-CLINICAL TRAINING-COMPULSORY		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		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: 20 hours</i>			
<b>COURSE TYPE</b>	Compulsory, General Knowledge, Core Course, Skills Development		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Leraning outcomes</b>
<p>The aim is for the student to be able to recognize basic clinical entities of ophthalmology and to be able to approach 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 the students follow the course of the hospitalized patients or the patients of the Outpatient Departments and the Special Departments. Also small groups of students participate in surgical interventions in the hospital's surgery theater.</p> <p>Matter is in line with developments in ophthalmology and is adjusted accordingly</p>
<b>General Abilities</b>

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

### 3. 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 segment and 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD.		
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES		
TEACHING ORGANIZATION	<i>Teaching Method</i>	<i>Semester Workload</i>
	Lectures	70
	Small groups	
	Patient's examination	
	Personal Study	30
	<i>Total number of hours for the Course</i>	<b>100</b>
STUDENT ASSESSMENT	Oral examination, Greek	

#### 5. RECOMMENDED LITERATURE

# COURSE OUTLINE MED\_1153

## 1. GENERAL

<b>SCHOOL</b>	MEDICAL SCHOOL		
<b>DEPARTMENT</b>	OPHTHALMOLOGY		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED 1153	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup>
<b>COURSE TITLE</b>	OPHTHALMOLOGY-CLINICAL TRAINING-OPTIONAL		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35	4
Theoretical training (Teaching hours/week) 1,5 hours			
<b>COURSE TYPE</b>	Optional, development of clinical skills		
<b>PREREQUISITE COURSES:</b>	-Compulsatory ophthalmology 8th semester -Compulsatory clinical course 11th semester		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
- The acquisition of clinical skills and theoretical training beyond the obligatory learners. - Content is in line with developments in ophthalmology and is adjusted accordingly
<b>General Abilities</b>

## 3. 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.
--

## 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	
------------------------	--

<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	Face to face	70
	Contact with patients (Clinic - Surgery - Outpatient clinics)	
	Personal Study	30
	<b><i>Total number of hours for the Course</i></b>	100
<b>STUDENT ASSESSMENT</b>	Oral	

#### 5. RECOMMENDED LITERATURE

Multiple modern bibliography
------------------------------

# COURSE OUTLINE MED\_1156

## 1. GENERAL

1. 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)			

## 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
<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.</p> <p>Students gain knowledge and experience regarding pathology services, including:</p> <ul style="list-style-type: none"> <li>Gross examination and processing of biopsy material and resection specimens</li> <li>Processing of tissues in the laboratory</li> <li>Use and contribution to diagnosis of ancillary techniques like immunohistochemistry</li> <li>Process of formulation of the final diagnosis</li> </ul> <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>
<b>General Abilities</b>
<p>Study, analysis and synthesis of data, with the use of required technologic methods</p> <p>Decision making</p> <p>Autonomous task management</p> <p>Team working</p> <p>Generation of novel research ideas</p>

## 3. COURSE CONTENT

<p>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).</p>
--

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Attendance at the Department of Pathology, University General Hospital of Patras	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	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	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Clinical training focused on theory comprehension by discussing clinical cases and demonstration of gross specimens and histologic slides	70
	Personal Studying	30
	<b>Total (25 hours per unit)</b>	<b>100</b>
<b>STUDENT ASSESSEMENT</b>	<p>Assessment is undertaken in the Greek Language with oral exams (100%) and is comprised of:</p> <ul style="list-style-type: none"> <li>• Short answer questions based on a short clinical case in order to evaluate student's understanding of the theory</li> </ul>	

#### 5. RECOMMENDED LITERATURE

<p>5. Greek translation of Robbins Basic Pathology, 9th Edition, by V. Kumar, A. Abbas, J. Aster, Parisianou Publishing, 2016, (original edition 2013)</p> <p>6. Greek translation of Robbins and Cotran Atlas of Pathology, 3rd Edition by E. Klatt, Parisianou Publishing, 2018 (original edition 2014)</p> <p><u>Useful sites</u></p> <ul style="list-style-type: none"> <li>• <a href="https://library.med.utah.edu/WebPath/webpath.html">https://library.med.utah.edu/WebPath/webpath.html</a></li> <li>• (Webpath the Internet Pathology Laboratory)</li> <li>• <a href="http://www.virtualpathology.leeds.ac.uk/ug/">http://www.virtualpathology.leeds.ac.uk/ug/</a></li> <li>• (Leeds University Pathology E-learning)</li> <li>• <a href="http://zoomify.lumc.edu/path/genpath/genpath.htm">http://zoomify.lumc.edu/path/genpath/genpath.htm</a></li> <li>• <a href="http://zoomify.lumc.edu/path/virtualpath.htm">http://zoomify.lumc.edu/path/virtualpath.htm</a></li> <li>• <a href="http://www.stritch.luc.edu/lumen/lessons.cfm">http://www.stritch.luc.edu/lumen/lessons.cfm</a></li> <li>• <a href="http://www.pathguy.com/">http://www.pathguy.com/</a></li> <li>• (The Pathology Guy - Online Help)</li> <li>• <a href="http://www.meddean.luc.edu/lumen/MedEd/Histo/htm">http://www.meddean.luc.edu/lumen/MedEd/Histo/htm</a></li> <li>• <a href="http://www.udel.edu/biology/Wags/histopage/histopage.htm">http://www.udel.edu/biology/Wags/histopage/histopage.htm</a></li> </ul>
--

## COURSE OUTLINE MED\_1166

### 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED_1166	<b>SEMESTER OF STUDIES</b>	10 <sup>TH</sup> – 11 <sup>TH</sup>
<b>COURSE TITLE</b>	PULMONARY MEDICINE		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures		35	4
<b>COURSE TYPE</b>	Field of Science, Skills		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be performed in English in case foreign students also attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED983/">https://eclass.upatras.gr/courses/MED983/</a>		

### 2. LEARNING OUTCOMES

Leraning outcomes
<p>Pulmonary Medicine is taught during the 10<sup>th</sup> and 11<sup>th</sup> semester. The aim of the course is to provide the student with essential knowledge in the field of pulmonary medicine and the important practical medical skills. Pulmonary medicine is the science of respiratory system and its systematic study is essential for every medical student and medical doctor.</p> <p>The lung participates in the exchange of respiratory gases, which is a critical procedure. Moreover, they play a role in human defense, as the airways lead the air inside the lung and may allow viruses and other microbes enter the bronchial tree. Finally, they allow waste substances to be excreted, 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.</p> <p>The aim of the unit “Signs and symptoms” is to understand the main respiratory symptoms, namely cough, haemoptysis, chest pain and dyspnea.</p> <p>The aim of the unit “Physical examination and history” is to analyze the methods of physical examination that can be used for the respiratory system. More specifically a careful medical history is needed, together with patient review, palpation, palpation, touch, and auscultation.</p> <p>In the unit “Laboratory tests” the student understands spirometry, plethysmography, lung diffusion capacity test, cardiopulmonary exercise testing, arterial blood gases analysis, bronchoscopy, aspiration of pleural effusion and polysomnography. Moreover, more recent imaging techniques of the lung are analyzed, such as chest radiography and computed tomography.</p> <p>The unit “Lung diseases” is dedicated to the most common respiratory diseases: Bronchial asthma, Chronic Obstructive Pulmonary Disease, Lower respiratory tract infections, Interstitial lung diseases, Lung cancer, Pulmonary embolism, Sleep apnoea, Acid-Base Balace, Pleural effusion, Tuberculosis.</p> <p>Generally, by the end of this course the student will, furthermore, have developed the following general abilities:</p>

- 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.
- 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.

### 3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Clinic	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Clinic. Use of electronic platform of University of Patras eclass.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	70
	Personal Study	30
	<b>Total</b>	<b>100 hours</b>
<b>STUDENT ASSESSEMNT</b>	Written and/or oral exam at the end of the lectures with multiple choice and questions.	

#### 5. RECOMMENDED LITERATURE

ERS handbook, Respiratory Medicine. Paolo Palange, Anita Simonds. 2013. European Respiratory Society. ISBN: 978-1-84984-040-8



# COURSE OUTLINE MED\_1151

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>MED 1151</b>	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> & 12 <sup>th</sup> semester
<b>COURSE TITLE</b>	CLINICAL TRAINING IN RHINOLOGY – Elective		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35 hours/ week	
		2 weeks	4 ECTS
		TOTAL: 70 hours	
<b>COURSE TYPE</b>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in english)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr">http://www.med.upatras.gr</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
Clinical Training in Rhinology is an introductory course in the area of Rhinology and aims to provide the student with specialized knowledge in this field as it is the most common pathology in Otolaryngology.
<b>General Abilities</b>
<ol style="list-style-type: none"> <li>1. Search, analyze and synthesize data and information, using the necessary technologies.</li> <li>2. Teamwork</li> <li>3. Respect for diversity and multiculturalism</li> <li>4. Demonstration of social, professional and moral responsibility and sensitivity to gender issues</li> <li>5. Exercise of criticism and self-criticism</li> <li>6. Promoting free and creative thinking.</li> </ol>

## 3. COURSE CONTENT

<p>Embryology - Anatomy – Histology – Physiology and Pathophysiology of nasal cavity and paranasal sinuses</p> <p>Nasal Breathing Difficulties - Nasal Difformities</p> <p>Nasal problems in children</p> <p>Snoring - Sleep apnea</p> <p>Olfactory and taste disorders</p> <p>CSF leak</p> <p>Facial and head pain</p> <p>Other nasal disorders</p> <p>Emergency nasal problems</p>
--

Diagnostic techniques for nasal diseases  
Imaging techniques of nasal cavity and paranasal sinuses  
Practical training cycle in all modern techniques for the treatment of inferior turbinates hypertrophy in the experimental laboratory

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Direct (face to face).	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Specialized software through E-CLASS Platform	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Clinical Practice	60
	Autonomous study	40
	<b>Total number of hours for the Course (25 hours of work-load per ECT credit)</b>	<b>100 h</b>
<b>STUDENT ASSESSEMNT</b>	Oral Student Examination at the End of Clinical Exercise	

#### 5. RECOMMENDED LITERATURE

--

# COURSE OUTLINE MED\_1122

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	FACULTY OF MEDICINE		
<b>COURSE CODE</b>	MED_1122	<b>SEMESTER OF STUDIES</b>	11th
<b>COURSE TITLE</b>	Surgery		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
LECTURES - ON BED TRAINING - OR PARTICIPATION		35/week, 6 weeks	12
<b>COURSE TYPE</b>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek. Teaching may be performed in English, in case foreign students attend the course.		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
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.
<b>General Abilities</b>
<i>Search, analysis and synthesis of data with the use of appropriate technologies</i>
<i>Decision making</i>
<i>Working alone and as part of a team</i>

## 3. 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
--

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face, e-class.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of I.C.T (eg Powerpoint) in lectures. The lectures are uploaded on the Internet (e-class).	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	Ward rounds	60
	Lectures	30
	Surgical cases presentation	20
	Participation on call duties	40
	<b><i>Total number of hours for the Course</i></b>	<b><i>150</i></b>
	Written assessment Oral exams  Minimum passing grade: 5	

#### 5. RECOMMENDED LITERATURE

D. Voros, Surgery, 2<sup>nd</sup> edition, Parisianou A.E. 2014

# COURSE OUTLINE MED\_1126

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICINE		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>MED 1126</b>	<b>SEMESTER OF STUDIES</b>	11 <sup>th</sup> & 12 <sup>th</sup> semester
<b>COURSE TITLE</b>	CLINICAL TRAINING IN OTORHINOLARYNGOLOGY – Mandatory		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		35 hours/ week	
		2 weeks	4 ECTS
		TOTAL: 70 hours	
<b>COURSE TYPE</b>	Field of Science		
<b>PREREQUISITE COURSES:</b>			
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes (in english)		
<b>COURSE WEBPAGE (URL)</b>	<a href="http://www.med.upatras.gr">http://www.med.upatras.gr</a>		

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>Medical students in their 6<sup>th</sup> 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 (Neurotology – 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>
<b>General Abilities</b>
<ol style="list-style-type: none"> <li>1. Search, analyze and synthesize data and information, using the necessary technologies.</li> <li>2. Teamwork</li> <li>3. Respect for diversity and multiculturalism</li> <li>4. Demonstration of social, professional and moral responsibility and sensitivity to gender issues</li> <li>5. Exercise of criticism and self-criticism</li> <li>6. Promoting free and creative thinking.</li> </ol>

## 3. 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

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Direct (face to face).	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Specialized software through E-CLASS Platform	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Clinical Practice	60
	Autonomous study	40
	<b>Total number of hours for the Course (25 hours of work-load per ECT credit)</b>	<b>100 h</b>
<b>STUDENT ASSESSEMENT</b>	Oral Student Examination at the End of Clinical Exercise	

#### 5. RECOMMENDED LITERATURE

--

# COURSE OUTLINE MED\_1157

## 1. GENERAL

<b>SCHOOL</b>	HEALTH SCIENCES		
<b>DEPARTMENT</b>	MEDICAL		
<b>LEVEL OF COURSE</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MED1157	<b>SEMESTER OF STUDIES</b>	ELEVENTH- TWELFTH (ELECTIVE)
<b>COURSE TITLE</b>	CLINICAL DERMATOLOGY ELECTIVE		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures, seminars and laboratory work		35	2
<b>COURSE TYPE</b>	Field of Science		
<b>PREREQUISITE COURSES:</b>	Basic principles of dermatology		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	Greek		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBPAGE (URL)</b>			

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>By the end of the Clinical Dermatology Elective, the student will be able to:</p> <ol style="list-style-type: none"> <li>1. Obtain a relevant dermatologic history</li> <li>2. Perform physical examination of the integumentary system</li> <li>3. Describe accurately morphology of lesions and eruptions on patients</li> <li>4. Diagnose common and important cutaneous disorders and sexually transmitted diseases</li> <li>5. Demonstrate familiarity with common diagnostic procedures(immunopathology, molecular biology, immunology, medical engineering, photobiology, and allergology)</li> <li>6. Demonstrate knowledge of basic principles and application of topical and systemic therapy of cutaneous disorders and sexually transmitted diseases.</li> </ol>
<b>General Abilities</b>
Autonomous (Independent) work

## 3. COURSE CONTENT

<p>Supervised participation in clinical activities, both inpatient and outpatient, and all scheduled lectures of the Department of Dermatology.</p> <p>Students participate in ward rounds, bedside teaching and case presentations, outpatient clinic, evaluation of laboratory tests, instruction in the invasive and non invasive methods of diagnosis and treatment of skin diseases.</p>
---

--

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Bedside clinical examination and lectures face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The lectures content of the course for each chapter are presented in the form of a series of slides.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Bedside clinical examination and lectures (35 conduct hours per week x 2 week)	70
	<b>Total number of hours for the Course 35 hours of work-load per ECTS credit)</b>	<b>70</b>
<b>STUDENT ASSESSEMNT</b>	Oral examination after the end of the Clinical Dermatology Elective	

#### 5. RECOMMENDED LITERATURE

<ul style="list-style-type: none"> <li>• Dermatology Essentials, Bologna &amp; Schaeffer, Eds. Paschalidis</li> <li>• Dermatology, Lecture Notes, Robin Graham-Brown-Tony Burns. Eds. Parisianou</li> </ul>
---



## FOREIGN LANGUAGES

### COURSE OUTLINE MED\_171

#### 1. GENERAL

<b>SCHOOL</b>	School of Health Sciences		
<b>DEPARTMENT</b>	Faculty of Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_171	<b>SEMESTER OF STUDIES</b>	1 <sup>st</sup>
<b>COURSE TITLE</b>	English I		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		2	0
<b>COURSE TYPE</b>	Foreign language course		
<b>PREREQUISITE COURSES:</b>	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.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	English		

<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED846/">https://eclass.upatras.gr/courses/MED846/</a>

## 2. LEARNING OUTCOMES

<b>Lerning outcomes</b>
<p>By the end of this course the student will have:</p> <p>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.</p> <p>b) Developed a number of language and cognitive skills (most of which are transferable) necessary for participating in the academic discourse community,</p> <p>c) Further developed their language skills using the technology available in addition to classroom training. In other words they are prepared for autonomous learning.</p>
<b>General Abilities</b>
<p>Skills acquisition refers to:</p> <ul style="list-style-type: none"> <li>• Cultivation of skills in the use of English medical terminology</li> <li>• Developing production skills and understanding of written and spoken language</li> <li>• Proper pronunciation and expression</li> <li>• Acquiring academic writing skills</li> <li>• Working in an international environment</li> <li>• Working in an interdisciplinary environment</li> </ul>

## 3. COURSE CONTENT

<p>Grammatical structures found in medical texts including:</p> <ul style="list-style-type: none"> <li>• Tenses</li> <li>• Active and Passive Voice</li> <li>• Relative clauses</li> </ul>
--

<ul style="list-style-type: none"> <li>Articles</li> <li>Prepositions</li> <li>Indirect speech</li> <li>Secondary clauses</li> </ul> <p>Medical text analysis</p> <p>Medical terminology</p>
--

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures. Exercises in all four language skills: reading, writing, listening and speaking.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of powerpoint and other audiovisual materials.	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	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
<b>STUDENT ASSESSEMNT</b>	Written final exam in English including grammatical, writing and vocabulary exercises.	

#### 5. RECOMMENDED LITERATURE

ENGLISH-GREEK GREEK-ENGLISH MEDICAL DICTIONARY, GEORGIOS I. MICHALIDIS, MEDICAL PUBLICATIONS KONSTANTARAS, FIFTH EDITION, MAY 2005

## COURSE OUTLINE MED\_271

### 1. GENERAL

<b>SCHOOL</b>	School of Health Sciences		
<b>DEPARTMENT</b>	Faculty of Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_271	<b>SEMESTER OF STUDIES</b>	2nd
<b>COURSE TITLE</b>	English II		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		2	0
<b>COURSE TYPE</b>	Foreign language course		
<b>PREREQUISITE COURSES:</b>	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.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED855/">https://eclass.upatras.gr/courses/MED855/</a>		

### 2. LEARNING OUTCOMES

Learning outcomes
<p>By the end of this course the student will have:</p> <ul style="list-style-type: none"> <li>Improved their understanding of medical terminology especially the language used in anatomy and physiology.</li> </ul>

- 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

## 3. 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

<ul style="list-style-type: none"> <li>• Range of motion</li> <li>• Practice with verbs</li> <li>• Describing structure and functions of systems and organs</li> <li>• Word parts concerned with color</li> </ul> <p>Describing shapes and properties of various organs and structures in the human body.</p> <ul style="list-style-type: none"> <li>• Shapes and properties</li> </ul> <p>Describing location of various organs and structures in the human body</p> <ul style="list-style-type: none"> <li>• Anatomical terms</li> <li>• Locative prefixes</li> <li>• Locative prepositions</li> </ul> <p>Medical text analysis</p>
---

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Lectures and classroom exercises/activities.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of powerpoint and other audiovisual materials. <a href="https://eclass.upatras.gr/courses/MED855/">https://eclass.upatras.gr/courses/MED855/</a>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Language and lexical exercises	2 hours per week for 13 weeks. Total of 26 hours per semester

<b>STUDENT ASSESSEMNT</b>	Written final examination		

## 5. RECOMMENDED LITERATURE

"English Terminology for Health Scientists," George I. Panoutsopoulos, DIASIGMA PUBLICATIONS, 2016



## COURSE OUTLINE MED\_371

### 1. GENERAL

<b>SCHOOL</b>	School of Health Sciences		
<b>DEPARTMENT</b>	Faculty of Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_371	<b>SEMESTER OF STUDIES</b>	3 <sup>rd</sup>
<b>COURSE TITLE</b>	English III		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		2	0
<b>COURSE TYPE</b>	Foreign language course		
<b>PREREQUISITE COURSES:</b>	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.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED877/">https://eclass.upatras.gr/courses/MED877/</a>		

### 2. LEARNING OUTCOMES

Lerning outcomes
<p>By the end of this course the student will have:</p> <ul style="list-style-type: none"> <li>Improved their understanding of medical terminology especially the language used in describing symptoms, diseases, treatments of disease, immunity, case histories, the physical examination.</li> </ul>

- 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

### **3. 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

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b>	Lectures and classroom exercises/activities.
<b>USE OF INFORMATION AND COMMUNICATION</b>	Use of powerpoint and other audiovisual materials. <a href="https://eclass.upatras.gr/courses/MED877/">https://eclass.upatras.gr/courses/MED877/</a>

<b>TECHNOLOGIES</b>		
<b>TEACHING ORGANIZATION</b>	<b><i>Activity</i></b>	<b><i>Semester workload</i></b>
	Language and lexical exercises	2 hours per week for 13 weeks. Total of 26 hours per semester
<b>STUDENT ASSESSEMENT</b>	Written final examination	

## 5. RECOMMENDED LITERATURE

--

## COURSE OUTLINE MED\_471

### 1. GENERAL

<b>SCHOOL</b>	School of Health Sciences		
<b>DEPARTMENT</b>	Faculty of Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_471</b>	<b>SEMESTER OF STUDIES</b>	4 <sup>th</sup>
<b>COURSE TITLE</b>	English IV		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
		2	0
<b>COURSE TYPE</b>	Foreign language course		
<b>PREREQUISITE COURSES:</b>	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.		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	English		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/MED905/">https://eclass.upatras.gr/courses/MED905/</a>		

### 2. LEARNING OUTCOMES

Lerning outcomes
<p>By the end of this course the student will have:</p> <ul style="list-style-type: none"> <li>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.</li> </ul>

- 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

### **3. 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

### **4. TEACHING AND LEARNING METHODS - ASSESSMENT**

<b>TEACHING METHOD</b>	Lectures and classroom exercises/activities.	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of powerpoint and other audiovisual materials. <a href="https://eclass.upatras.gr/courses/MED905/">https://eclass.upatras.gr/courses/MED905/</a>	
<b>TEACHING ORGANIZATION</b>	<b>Activity</b>	<b>Semester workload</b>
	Language and lexical exercises	2 hours per week for 13 weeks. Total of 26 hours per semester
<b>STUDENT ASSESSEMNT</b>	Written final examination	

## 5. RECOMMENDED LITERATURE

"Greek-English Medical Terminology Dictionary," George I. Michaelides, Medical Publications Konstantaras, Fifth Edition, May 2005.

## COURSE OUTLINE MED\_175

### 1. GENERAL

<b>SCHOOL</b>	Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_175</b>	<b>SEMESTER</b>	<b>1 (Spring)</b>
<b>COURSE TITLE</b>	Russian I		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
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
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language		
<b>PREREQUISITE COURSES:</b>	No		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Russian		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	-		

### 2. 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

- Coverage of basic phonetic and grammatical structures – A' semester

In the A' semester (**Russian I**) 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*

*Project planning and management*

*Respect for difference and multiculturalism*

*Adapting to new situations*

*Respect for the natural environment*

*Decision-making*

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

*Working independently*

*Criticism and self-criticism*

*Team work*

*Production of free, creative and inductive thinking*

*Working in an international environment*

*.....*

*Working in an interdisciplinary environment*

*Others...*

*Production of new research ideas*

*.....*

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

### 3. SYLLABUS

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

### 4. TEACHING and LEARNING METHODS - EVALUATION



<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face (in class)																						
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>																							
<b>TEACHING METHODS</b> <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>	<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</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>	Activity	Semester workload	Lectures	19	Laboratory practice	20	Study and analysis of bibliography		Project		Essay writing										Course total	3x13=39
Activity	Semester workload																						
Lectures	19																						
Laboratory practice	20																						
Study and analysis of bibliography																							
Project																							
Essay writing																							
Course total	3x13=39																						
<b>STUDENT PERFORMANCE EVALUATION</b> <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 given, and if and where they are accessible to students.</i>	Assessment language is Russian.  The evaluation is based on: Final Exam (50%) Written project (10%) Attendance (40%)																						


## 5. ATTACHED BIBLIOGRAPHY

<ol style="list-style-type: none"> <li>1. РУССКИЙ ЯЗЫК ДЛЯ ВСЕХ.Под редакцией В.Г.Костомарова</li> <li>2. РУССКИЙ ЯЗЫК. ПРАКТИЧЕСКИЙ КУРС. Л.С.Журавлёва</li> <li>3. ПОЕХАЛИ.Ст.Чернышов</li> <li>4. GRAMMATICAL COMMENTS. NOTES BY P. IOANNIDOU</li> <li>5. РУССКО-ГРЕЧЕСКИЙ СЛОВАРЬ. MANDESON</li> </ol>
--

## COURSE OUTLINE MED\_275

### 1. GENERAL

<b>SCHOOL</b>	Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_275</b>	<b>SEMESTER</b>	<b>2 (Spring)</b>
<b>COURSE TITLE</b>	Russian II		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
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>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language		
<b>PREREQUISITE COURSES:</b>	The students who choose RUSSIAN II must have attended RUSSIAN I.		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Russian		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	-		

### 2. 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

- 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

Project planning and management

Adapting to new situations

Respect for difference and multiculturalism

Decision-making

Respect for the natural environment

Working independently

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

Team work

Criticism and self-criticism

Working in an international environment

Production of free, creative and inductive thinking

Working in an interdisciplinary environment

.....

Production of new research ideas

Others...

.....

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

## 3. SYLLABUS

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

#### 4. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face (in class)	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>		
<b>TEACHING METHODS</b>  <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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	19
	Laboratory practice	20
	Study and analysis of bibliography	
	Project	
	Essay writing	
	Course total	3x13=39
<b>STUDENT PERFORMANCE EVALUATION</b>  <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 given, and if and where they are accessible to students.</i>	Assessment language is Russian.  The evaluation is based on:  Final Exam (50%)  Written project (10%)  Attendance (40%)	


## 5. 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. GRAMMATICAL COMMENTS. NOTES BY P. IOANNIDOU
---

## COURSE OUTLINE MED\_375

### 1. GENERAL

<b>SCHOOL</b>	Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_375</b>	<b>SEMESTER</b>	<b>3</b>
<b>COURSE TITLE</b>	Russian III		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
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>			
<b>COURSE TYPE</b>  <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language		
<b>PREREQUISITE COURSES:</b>	The students who choose RUSSIAN III must have attended RUSSIAN I and RUSSIAN II.		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Russian		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>			

### 2. 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 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*

*Project planning and management*

*Adapting to new situations*

*Respect for difference and multiculturalism*

*Decision-making*

*Respect for the natural environment*

*Working independently*

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

*Team work*

*Criticism and self-criticism*

*Working in an international environment*

*Production of free, creative and inductive thinking*

*Working in an interdisciplinary environment*

*.....*

*Production of new research ideas*

*Others...*

*.....*

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

Correct pronunciation and intonation.

### 3. SYLLABUS

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

### 4. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face (in class)
---	-------------------------



<p><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b></p> <p><i>Use of ICT in teaching, laboratory education, communication with students</i></p>																							
<p><b>TEACHING METHODS</b></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 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><b>Activity</b></th><th><b>Semester workload</b></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><b>3x13=39</b></td></tr> </tbody> </table>	<b>Activity</b>	<b>Semester workload</b>	Lectures	19	Laboratory practice, listening and speaking skills, communication and writing skills.	20															Course total	<b>3x13=39</b>
<b>Activity</b>	<b>Semester workload</b>																						
Lectures	19																						
Laboratory practice, listening and speaking skills, communication and writing skills.	20																						
Course total	<b>3x13=39</b>																						
<p><b>STUDENT PERFORMANCE EVALUATION</b></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>Assessment language is Russian.</p> <p>The evaluation is based on:</p> <p>Final Exam (50%)</p> <p>Written project (10%)</p> <p>Attendance (40%)</p>																						

## 5. 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. GRAMMATICAL COMMENTS. NOTES BY P. IOANNIDOU

## COURSE OUTLINE MED\_475

### 1. GENERAL

<b>SCHOOL</b>	Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_475</b>	<b>SEMESTER</b>	<b>4</b>
<b>COURSE TITLE</b>	Russian IV		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
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>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Foreign language		
<b>PREREQUISITE COURSES:</b>	The students who choose RUSSIAN IV must have attended RUSSIAN I, RUSSIAN II and RUSSIAN III.		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Russian		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>			

### 2. 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 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*

*Project planning and management*

*Adapting to new situations*

*Respect for difference and multiculturalism*

*Decision-making*

*Respect for the natural environment*

*Working independently*

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

*Team work*

*Criticism and self-criticism*

*Working in an international environment*

*Production of free, creative and inductive thinking*

*Working in an interdisciplinary environment*

*.....*

*Production of new research ideas*

*Others...*

*.....*

Improvement in usage and understanding of the Russian language.

Improvement of writing and speaking skills.

Correct pronunciation and intonation.

### **3. SYLLABUS**

- Grammatical and syntactic phenomena. Speaking and writing. Vocabulary enrichment.

#### 4. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face (in class)	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>		
<b>TEACHING METHODS</b>  <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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	19
	Laboratory practice, listening and speaking skills, communication and writing skills.	20
	Course total	<b>3x13=39</b>
	<b>STUDENT PERFORMANCE EVALUATION</b>  <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>	Assessment language is Russian.  The evaluation is based on:  Final Exam (50%)  Written project (10%)  Attendance (40%)

<i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	
--	--

## **5. RECOMMENDED BIBLIOGRAPHY**

- |   |
|---|
| <ol style="list-style-type: none"><li>5. РУССКИЙ ЯЗЫК ДЛЯ ВСЕХ. Под редакцией В.Г.Костомарова</li><li>6. РУССКИЙ ЯЗЫК. ПРАКТИЧЕСКИЙ КУРС. Л.С.Журавлёва</li><li>7. ПОЕХАЛИ. Ст. Чернышов</li><li>8. GRAMMATICAL COMMENTS. NOTES BY P. IOANNIDOU</li></ol> |
|---|

## COURSE OUTLINE MED\_174

### 1. GENERAL

<b>SCHOOL</b>	of Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_174</b>	<b>SEMESTER</b>	<b>1</b>
<b>COURSE TITLE</b>	German I		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
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>			
<b>COURSE TYPE</b> <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		
<b>PREREQUISITE COURSES:</b>	Students are required to be independent users –upper intermediate level B1		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	German		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	-		

### 2. 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?*

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

*Project planning and management*

*Adapting to new situations*

*Respect for difference and multiculturalism*

*Decision-making*

*Respect for the natural environment*

*Working independently*

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

*Team work*

*Criticism and self-criticism*

*Working in an international environment*

*Production of free, creative and inductive thinking*

*Working in an interdisciplinary environment*

*.....*

*Production of new research ideas*

*Others...*

*.....*

Improve all four languages skills-reading ,listening, speaking, writing to a satisfactory level (B1+-B2)

Apply strategies for reading and comprehending relevant German bibliography

### 3. 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



#### 4. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face(class)	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	-	
<b>TEACHING METHODS</b>  <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>		
	<b>ctivity</b>	<b>Semester orkload</b>
	Lectures	16
	Laboratory and language practice	20
	Study and analysis of bibliography	-
	Project writing	-
	Essay writing	-
	Course total	36
<b>STUDENT PERFORMANCE EVALUATION</b>  <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>	<p>The language of evaluation is German.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"><li>• Final exam (90%)</li><li>• Attendance and participation (10%)</li></ul> <p>T</p>	

<i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	
--	--

## 5. ATTACHED BIBLIOGRAPHY

- |  |
|--|
| <ul style="list-style-type: none"><li>• Begegnungen B1+ Schubert Verlag (main coursebook)</li><li>• German Grammar and Syntax - Praxis Verlag (grammar book)</li><li>• Pons Wörterbuch Deutsch Griechisch-Griechisch Deutsch Klett Verlag (on line dictionary)</li></ul> |
|--|

## COURSE OUTLINE MED\_274

### 1. GENERAL

<b>SCHOOL</b>	of Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_274</b>	<b>SEMESTER</b>	<b>2</b>
<b>COURSE TITLE</b>	German II		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
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>			
<b>COURSE TYPE</b> <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		
<b>PREREQUISITE COURSES:</b>	Students are required to be independent users –upper intermediate level B1		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	German		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	-		

### 2. LEARNING OUTCOMES

<b>Learning outcomes</b>
--------------------------

*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

### **3. 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

#### 4. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face (class)																						
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	-																						
<b>TEACHING METHODS</b> <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>	<table border="1"> <thead> <tr> <th>Activity</th><th>Semester workload</th></tr> </thead> <tbody> <tr> <td>Lectures</td><td>16</td></tr> <tr> <td>Laboratory and language practice</td><td>20</td></tr> <tr> <td>Study and analysis of bibliography</td><td>-</td></tr> <tr> <td>Project writing</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>36</td></tr> </tbody> </table>	Activity	Semester workload	Lectures	16	Laboratory and language practice	20	Study and analysis of bibliography	-	Project writing	-	Essay writing	-									Course total	36
Activity	Semester workload																						
Lectures	16																						
Laboratory and language practice	20																						
Study and analysis of bibliography	-																						
Project writing	-																						
Essay writing	-																						
Course total	36																						
<b>STUDENT PERFORMANCE EVALUATION</b> <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>	<p>The language of evaluation is German.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> <li>• Final exam (90%)</li> <li>• Attendance and participation (10%)</li> </ul> <p>T</p>																						

<i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	
--	--

## 5. ATTACHED BIBLIOGRAPHY

- |  |
|--|
| <ul style="list-style-type: none"><li>• Begegnungen B1+ Schubert Verlag (main coursebook)</li><li>• German Grammar and Syntax - Praxis Verlag (grammar book)</li><li>• Pons Wörterbuch Deutsch Griechisch-Griechisch Deutsch Klett Verlag (on line dictionary)</li></ul> |
|--|

## COURSE OUTLINE MED\_374

### 1. GENERAL

<b>SCHOOL</b>	Of Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_374</b>	<b>SEMESTER</b>	<b>3 Winter</b>
<b>COURSE TITLE</b>	German III		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
Lecture and laboratory exercises		2	-
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Teaching German for Specific Purposes (specialised general knowledge), Academic skills development		
<b>PREREQUISITE COURSES:</b>	GERMAN I, II		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	German		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	-		

### 2. 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*

*Project planning and management*

*Respect for difference and multiculturalism*

*Adapting to new situations*

*Respect for the natural environment*

*Decision-making*

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

*Working independently*

*Criticism and self-criticism*

*Team work*

*Working in an international environment*

*Production of free, creative and inductive thinking*

*Working in an interdisciplinary environment*

*.....*

*Production of new research ideas*

*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.

### 3. 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

,

#### 4. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face(class)	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	No	
<b>TEACHING METHODS</b>  <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>		
	<b>Activity</b>	<b>Semester workload</b>
	Lectures	16
	Laboratory practice	10
	Course total	26
<b>STUDENT PERFORMANCE EVALUATION</b>  <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 given, and if and where they are accessible to students.</i>	Assessment language is German  The evaluation includes: <ul style="list-style-type: none"><li>• Exam (90%)</li><li>• Attention and Participations (10%)</li></ul>	

--	--

A Click or tap here to enter text.

## 5. 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

### 6. GENERAL

<b>SCHOOL</b>	of Health Sciences		
<b>ACADEMIC UNIT</b>	Medicine		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>MED_474</b>	<b>SEMESTER</b>	<b>4 (Spring)</b>
<b>COURSE TITLE</b>	German IV		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
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>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Teaching German for Specific Purposes (specialised general knowledge), Academic skills development		
<b>PREREQUISITE COURSES:</b>	GERMAN I, II, III		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	German		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	-		

### 7. LEARNING OUTCOMES

<b>Learning outcomes</b> <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>
--

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*

*Project planning and management*

*Respect for difference and multiculturalism*

*Adapting to new situations*

*Respect for the natural environment*

*Decision-making*

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

*Working independently*

*Criticism and self-criticism*

*Team work*

*Working in an international environment*

*Production of free, creative and inductive thinking*

*Working in an interdisciplinary environment*

*.....*

*Production of new research ideas*

*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 System	Endocrines
<b>Complex grammar phenomena :</b>	The
use of noun phrases in Academic and Medical German	
Employing verbs in Academic and Medical German	
Derivatives	

## 8. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face(class)	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	No	
<b>TEACHING METHODS</b>  <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>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	16
	Laboratory practice	10

	Course total	26
<p><b>STUDENT PERFORMANCE EVALUATION</b></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>Assessment language is German</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> <li>• Exam (90%)</li> <li>• Attention and Participations (10%)</li> </ul>	

## 9. ATTACHED BIBLIOGRAPHY

<ul style="list-style-type: none"> <li>• A) L.Burmester-Lippert: Medizinische Fachsprache leicht gemacht, Schattauer Verlag, 2011</li> <li>• B) A. Karenberg: Fachsprache Medizin im Schnellkurs, Schattauer Verlag 2009</li> <li>• C)D.Thommes /A. Schmidt: Menschen im Beruf Medizin, Hueber 2016</li> <li>• D) Duden Wörterbuch : Medizinische Fachbegriffe, Dudenverlag 2007</li> </ul>
---

## COURSE OUTLINE MED\_172

### 1. GENERAL

<b>SCHOOL</b>	of Health Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_172	<b>SEMESTER OF STUDIES</b>	First
<b>COURSE TITLE</b>	French for Medicine I		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and language practice exercises (laboratory practice)		3	2
<b>COURSE TYPE</b>	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
<b>PREREQUISITE COURSES:</b>	There are no prerequisites for the course. However, good knowledge of English is recommended towards students' successful completion of the course (A1/A2 level).		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	French		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/FLU124/">https://eclass.upatras.gr/courses/FLU124/</a>		

### 2. 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*

### **3. COURSE CONTENT**

The course covers the following topics in Mechanical Engineering:

- What is Medicine; an introduction
- Basics in Science
- Medical specialties
- Academic French Practice

#### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	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
<b>STUDENT ASSESSMENT</b>	The language of evaluation is French.	

	<p>The evaluation includes:</p> <ul style="list-style-type: none"> <li>• Final written exam (task based exam) – 80%</li> <li>• Optional oral presentation (10%)</li> <li>• Attendance and participation (10%)</li> </ul> <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>
--	--

## 5. RECOMMENDED LITERATURE

<p><i>Prêts... Partez!!!! A1-A2</i> : Souzana Apartian, Noelle Bertin, Le Livre Ouvert, 2016</p> <p><i>Le français des médecins</i> : Thomas Fossier, Solange Talavera-Goy, PUG 2008</p>
--

## COURSE OUTLINE MED\_272

### 1. GENERAL

<b>SCHOOL</b>	of Health Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_272	<b>SEMESTER OF STUDIES</b>	Second
<b>COURSE TITLE</b>	French for Medicine II		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and language practice exercises (laboratory practice)		3	2
<b>COURSE TYPE</b>	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
<b>PREREQUISITE COURSES:</b>	There are no prerequisites for the course. However, good knowledge of French is recommended towards students' successful completion of the course (A2/B1 level).		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	French		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/FLU125/">https://eclass.upatras.gr/courses/FLU125/</a>		

### 2. 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*

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	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
<b>STUDENT ASSESSMENT</b>	<p>The language of evaluation is French.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> <li>• Final written exam (task based exam) – 80%</li> <li>• Optional oral presentation (10%)</li> <li>• Attendance and participation (10%)</li> </ul> <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>	

## 5. 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 MED\_372

### 1. GENERAL

<b>SCHOOL</b>	of Health Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_372	<b>SEMESTER OF STUDIES</b>	Third
<b>COURSE TITLE</b>	French for Medicine III		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and language practice exercises (laboratory practice)		3	2
<b>COURSE TYPE</b>	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
<b>PREREQUISITE COURSES:</b>	There are no prerequisites for the course. However, good knowledge of French is recommended towards students' successful completion of the course (B1/B2 level).		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	French		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/FLU126/">https://eclass.upatras.gr/courses/FLU126/</a>		

### 2. 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*

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD</b>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>

	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
	Written report assignment	30
	Final exam	36
	Course total	125
<b>STUDENT ASSESSMENT</b>	<p>The language of evaluation is French.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> <li>• Final written exam (task based exam) – 80%</li> <li>• Written report and short assignments (10%)</li> <li>• Attendance and participation (10%)</li> </ul> <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>	

## 5. 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 MED\_472

### 1. GENERAL

<b>SCHOOL</b>	of Health Sciences		
<b>DEPARTMENT</b>	Medicine		
<b>LEVEL OF COURSE</b>	Undergraduate		
<b>COURSE CODE</b>	MED_472	<b>SEMESTER OF STUDIES</b>	Fourth
<b>COURSE TITLE</b>	French for Medicine IV		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>ECTS CREDITS</b>
Lectures and language practice exercises (laboratory practice)		3	2
<b>COURSE TYPE</b>	Teaching French for Specific Purposes (specialised general knowledge), Academic skills development		
<b>PREREQUISITE COURSES:</b>	There are no prerequisites for the course. However, good knowledge of French is recommended towards students' successful completion of the course (B1/B2 level).		
<b>TEACHING AND ASSESSMENT LANGUAGE:</b>	French		
<b>THE COURSE IS OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBPAGE (URL)</b>	<a href="https://eclass.upatras.gr/courses/FLU127/">https://eclass.upatras.gr/courses/FLU127/</a>		

### 2. 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*

### 3. 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

### 4. TEACHING AND LEARNING METHODS - ASSESSMENT

<b>TEACHING METHOD.</b>	Face to face	
<b>USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES</b>	Use of ICT in teaching Use of the e-class learning platform (laboratory education and communication)	
<b>TEACHING ORGANIZATION</b>	<b><i>Teaching Method</i></b>	<b><i>Semester Workload</i></b>
	Lectures (2 conduct hours per week x 13 weeks)	26

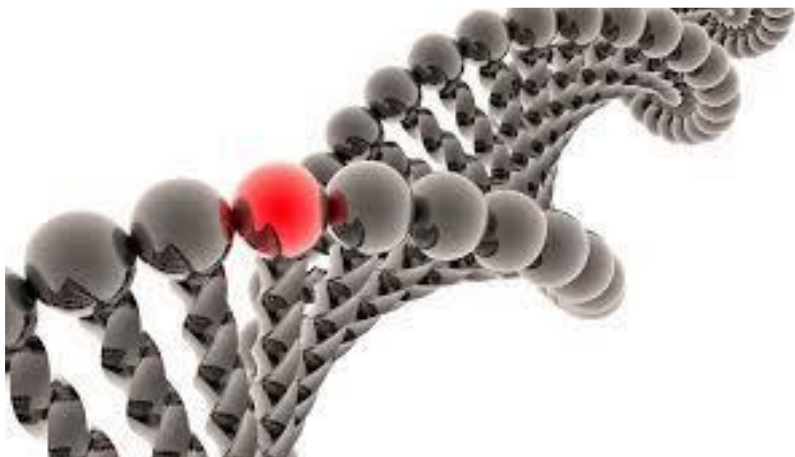
	Laboratory and language practice ( 1 conduct hour per week x 13 weeks)	13
	Homework preparation	20
	Written report assignment	30
	Final exam	36
	Course total	125
<b>STUDENT ASSESSMENT</b>	<p>The language of evaluation is French.</p> <p>The evaluation includes:</p> <ul style="list-style-type: none"> <li>• Final written exam (task based exam) – 80%</li> <li>• Written report and short assignments (10%)</li> <li>• Attendance and participation (10%)</li> </ul> <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>	

## 5. RECOMMENDED LITERATURE



- Carras C.,Tolas J.,Kolher P.,Szilagyi E., *Le français sur objectifs spécifiques et la classe de langue*, CLE International, Paris 2007
- Balmet S.E., Henao de Legge M., *Pratiques du français scientifique*, HACHETTE/AUPELF, Paris 1992
- Corado L., Sanchez-Macagno MO., *Français des affaires*, HACHETTE, Paris 1990.
- Instructor's notes.
- Prêts... Partez!!! B1, Bertin N.,Apartian S., *Le livre ouvert*, Athènes 2017.

## PART THREE



## POSTGRADUATE STUDIES

Post-graduate Studies (PGS) programs aim to promote knowledge and develop research, and can lead up to a PhD diploma acquisition. The timeframe, which can vary depending on the department, is defined in each program and cannot be less than six (6) semesters. The PGS programs also aim, before a PhD diploma, to offer the possibility of acquiring an MSc diploma. The timeframe, which can vary depending on the department, is defined in each program accordingly and cannot be less than four (4) semesters. An MSc diploma may be required as a compulsory prerequisite in order to proceed to composing a PhD thesis, by the regulation of PGS programs. Information about PGS programs is available on the website [www.med.upatras.gr](http://www.med.upatras.gr) under page «Εκπαίδευση».

The approved and valid PGS programs in the Department of Medicine of University of Patras are the following:

### **A. Post-graduate Studies program entitled “Clinical and Clinical-Laboratory Medical Specialties”**

The subject of this PGS program is the acquisition of a PhD diploma in Clinical and Clinical-Laboratory Medical Specialties.

Basic aim of this PGS program is to prepare PhD students who will autonomously be capable of promoting Scientific Medical Research and its philosophy, and who will contribute in meeting the country's educational research and healthcare needs, within the environment of fast-evolving and changing Medical Science and Technology.

This program is meant to include two “Circles” of studies:

- Basic Study Circle
- Clinical Study Circle

And leads to the acquisition of a PhD diploma on the subject matters of Clinical and Clinical-Laboratory Medical Specialties.

In this PGS program, Graduates of Greek medical Departments/Schools can be accepted, as well as graduates of equal and officially recognized Medical Schools outside the country (with a ΔΙΚΑΤΣΑ verified certificate).

Also, graduates of congener Greek or abroad Department Certificates can be accepted, relative to current existing legislation, whose certificates regard subject matters in which at least one Scientific Board member of the University of Patras, Department of Medicine exists, teaching a similar subject matter.

The timeframe of a PhD diploma acquisition is determined at six (6) semesters minimum and twelve (12) semesters maximum.

Extension of these deadlines is generally prohibited. As an exception, in special cases, a small deadline extension can be given, after a justified consensus of ΓΣΕΣ.

Also, a suspension of student status is possible, determined by a consensus of the Department ΓΣΕΣ, after a justified application of the student, in which duration all privileges of the post-graduate student are lifted.

(Information: Miss E. Kateli tel. 2610 969106)

## **B. Interdepartmental Postgraduate Studies program in Medical Physics**

Aim of this PGS program is specializing mainly Physics graduates in the Applications of Physics and Technology in Medicine, in order to contribute in health promotion and research evolution.

This IPSPMP program leads to the acquisition of (a) Master's Degree in Medical Physics and (b) PhD diploma.

After an open notice, in the program graduates from Physics, Electrical Engineers, Computer Engineers from Greek Departments or graduates from congener Institutions and Departments abroad, whose certificate is recognized and verified by ΔΙΚΑΤΣΑ, can be accepted

Applications from graduates of congener Technical Education Institutions can be accepted for initial evaluation, as indicated by Legislation 2327/95.

(Information: Miss R.Andreopoulou tel. 2610 969107, A.Aggelakopoulou tel. 2610 992942.)

## **C. Interuniversity Postgraduate Studies program in Biomedical Engineering**

The subject of this particular PGS program is to specialize graduate Engineers or Other Departments' graduates in application of technology in Medicine, in order to contribute in health promotion and research evolution.

This IPSPBE can lead to acquisition of: (a) Master's Degree in Biomedical Engineering and (b) PhD Diploma in Biomedical Engineering.

In this PGS program, after an open notice and selection, Engineering and Medicine graduates are accepted mainly, as well as graduates of equal and recognized congener Departments of similar scope, Greek and non-Greek.

Applications from graduates of congener Technical Education Institutions can be accepted for initial evaluation, as indicated by current Legislation.

(Information: Miss R.Andreopoulou tel. 2610 969107, A.Aggelakopoulou tel. 2610 992942.)

## **D. Post-graduate Studies Program "Applications of Basic Medical Sciences"**

This program aims in offering high-level postgraduate education, in order to understand the molecular basis of Human Disease and the application of Basic Medical Sciences Research results in clinical practice, utilizing knowledge and experience of Science Board Members and participation of specialized experts and distinguished scientists from other Universities of Greece and abroad. Offering the right theoretic and practical education in order to create specialized Medical Scientific Personnel capable of responsibly managing organization, processing and further development of Biomedical Services, is expected to carry chain positive, direct or indirect, consequences in the social and economic context of our country, such as:

- Increasing research potential as well as transfer of state-of-the-art technologies in our country.
- Facilitation of installment of specialized high level services in Healthcare Centers.
- Managing relevant problems within the country and avoid transferring patients abroad.
- Shortening convalescence time or absence from family/workplace, as a consequence of more effective service providing.
- Participation of productive dynamic of our country in supporting of specialization activities, through production and supply of equipment and disposables.

This program offers one study circle (four semesters) in the following five subject matters:

- 1) Pharmacokinetics/Toxicology
- 2) Molecular genetics/Cytarogenetics
- 3) Patho-Biochemistry
- 4) Neurosciences
- 5) Molecular Anatomy

and leads to the acquisition of a Master's Degree in **Applications of Basic Medical Sciences**.

**After acquisition of a Master's Degree, students who desire are evaluated and then selected to continue for a PhD diploma acquisition.** The minimum timeframe for this process is set at six compulsory semesters. The evaluation process and the general obligations of PhD students are defined in the Department's Studies Regulation.

After evaluation from a specialized committee, graduates from Greek or congener non-Greek Universities (Medicine, Life Sciences, Exact sciences, Technological Sciences) can be accepted, as well as congener to Biomedical Sciences, Technical Education Institution graduates according to Article 5, paragraph 13 of Law N. 2916/11-6-2001.

#### **E. Interdepartmental Postgraduates Studies Program in "Life Sciences Informatics" (LSI)**

This PGS Program aims to train graduates of Departments congener either to Informatics or Life Sciences in this hybrid new state-of-the-art Science. Life Sciences Informatics is the new interdepartmental section who uses Informatics Sciences and Computer Sciences to resolve problems in Life Sciences (E.g. analysis and data management software, Biological databases, models etc.). Problems are abundant and heterogeneous, and interaction between solutions and development of further access methods (see genetic algorithms, neuron computer networks). The term LSI reflects the amplitude of theoretic/research subjects, who include academic and professional models ranging from molecular (bioinformatics) to medical informatics as well as new dynamically evolving matters as neuroinformatics and others.

LSI program leads to acquisition of:

**1. Master's Degree in "Life Sciences Informatics"** in the following Subject matters:

- a. Bioinformatics
- b. Neuroinformatics
- c. Medical Informatics

## **2. PhD Diploma**

In the LSI program, graduates of Life Sciences and Informatics Departments of Greece are accepted as well as graduates of technical Education Institutions according to article 5, par.12 of Law N 2916/2001 or congener non-Greek Departments, recognized officially by ΔΙΚΑΤΣΑ.

The timeframe regarding acquisition of three titles, as per article, is set accordingly: For the Master's Degree it is set to 4 academic semesters minimum, including the timeframe of thesis completion, and not beyond 8 academic semesters maximum. For the PhD Diploma, this duration is set to 8 academic semesters minimum (Master's degree is counted as two years).

(Information: G.Harakidas tel. 2610 969114, S.Rapti, tel. 2610 969102.)

## **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.

## QUALITY ASSURANCE

### QUALITY ASSURANCE UNIT (QAU)

QAU is a central University Agency who coordinates collection of evidence who imprint the University's educational and research work, as it is performed by individual academic units, as well as the elements related to the university's operation in general (administrative, economic, technical specifications).

**QAU** convenes under the presidency of university of Patras' Deputy Dean of Academic Affairs and Personnel, and is composed of five members of Teaching-Research Personnel (TRP) and a common representative of administrative personnel.

modipsecr@upatras.gr, modip@upatras.gr, tel. 2610 – 996649/ 969047. Fax. 2610 – 996665

The jurisdiction of University of Patras Quality Ensuring Unit is defined in articles v. 3374/05 and are still in effect according to articles 80 (par. 12, γ) of v. 4009/11 (195 A') and include:

1. Evaluating University of Patras as a whole, by acting as an Internal Evaluation Team (IET) for the Institution. It caters for and constitutes the biannual Internal Report of the Institution's operation, which takes into account the corresponding Annual Internal reports of its Departments.
2. Responsibility for the constitution of the Internal Evaluation Report of the University of Patras, every four years.
3. Catering for the coordination, support and materialization of evaluation processes of the Academic Units and the Institution's Services, based on the quality of educational work, quality of research work, quality of studies' programs, as well as the quality of the rest of provided services (administrative services, student care, infrastructure etc.).
4. Overviewing and catering for timely constitution and submission of the Annual Internal Reports of the University's Departments.



5. Catering for the activation and support of the Internal Evaluation Process of the Institution's Academic Units, forwarding them to HQAA and contributing to organizing, by providing any offered means towards smooth conduct of on-site visits of external judges.
6. Receiving the Internal Evaluation Reports and forwarding them to the corresponding Academic Unit.
7. Catering for organization, operation, and overview of quality ensuring processes and evaluations of the Institution, the Academic Units and its services, within the context of indications and instructions of the HQAA.

## INTERNAL EVALUATION TEAM

Every University of Patras' Department composes, with decision of the General Assembly, an **Internal Evaluation Team (IET)**, which is responsible for the conduction of the Department's Evaluation and caters for gathering all the evidence necessary for composition and submission of the Annual Internal Report and the department's Internal Evaluation Report, to the University of Patras' QAU. The Department of Medicine's IET is comprised of seven members and is defined in regular intervals after suggestion of the Department's President and Department of Medicine's General Assembly's approval. In the end of every Academic year, the Annual Internal Report is composed, which constitutes the description and imprint of the whole work performed by the Department and institutes the first and regularly repeated process, from which the necessary evidence and information are gathered, based on which the Department's **Internal Evaluation Report (IER)** is composed every four years. The IER is based on the quality analysis and comparative evaluation of all the four-year-markers, based on which the Department's Internal Evaluation is performed. More specifically, in the Department of Medicine, in every Academic Semester, the students are required to evaluate the Theoretic lessons as well as Laboratory and Clinical lessons. The evidence is gathered under responsibility of the Department's IET and is submitted for process to the Administration of Education and Research. The Evaluation's results are uploaded on the site of Informatics System for Quality Ensuring (<https://ps.modip.upatras.gr/>).

## MEDICAL STUDENTS SCIENTIFIC ASSOCIATIONS

Hellenic Medical Students International Committee - HelMISC

Address

HELMISC 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.

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.

### ***What are HelMSIC's clinical and research type exchanges?***

In research exchange all years' students can participate and in clinical exchange students of 3<sup>rd</sup> year and above only.

HelMSIC'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. 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.

### ***In which year can medical students participate in a research exchange and in which in a clinical exchange?***

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, HelMSIC 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 EEFI 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 EEF'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.

## STATISTICAL DATA OF MEDICINE SCHOOL

Academic Year	Students (6 years)	Students (pending graduation)	Graduates	Faculty Members	Scientific Associates	PhD Dissertations
1977-78	62			4	1	
1978-79	158			4	2	
1979-80	245			15	4	1
1980-81	319			15	29	3
1981-82	404			17	35	4
1982-83	535		8	45	35	1
1983-84	583	4	56	47	32	9
1984-85	698	20	65	57	32	3
1985-86	830	57	53	61	29	8
1986-87	840	75	78	64	29	15
1987-88	806	121	77	66	18	16
1988-89	783	156	82	78	15	26
1989-90	785	167	109	93	12	14
1990-91	706	206	143	100	10	18
1991-92	665	238	116	103	8	24
1992-93	654	248	125	108	8	18
1993-94	716	234	122	114	7	14
1994-95	698	219	127	118	7	19
1995-96	691	288	113	115	7	19
1996-97	692	282	120	113	7	19
1997-98	679	277	95	117	5	12
1998-99	750	298	129	130	1	18
1999-00	797	282	133	131	1	25
2000-01	853	257	102	132	1	23
2001-02	889	270	64	147	1	21
2002-03	880	258	143	143	1	40








2003-04	947	234	157	148	1	28
2004-05	971	395	161	147	1	39
2005-06	849	276	135	151	1	31
2006-07	807	354	140	156	1	34
2007-08	749	288	185	157		31
2008-09	768	297	201	160		46
2009-10	820	281	155	161		51
2010-11	849	283	127	153		41
2011-12	863	267	118	154		33

## ESTABLISHED CLINICS AND LABORATORIES

	NAME	RELEVANT LAW	ESTABLISHMENT
LABORATORIES	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
CLINICS	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 & OGG 1160/24-6-08
	RECOVERY OF PATIENTS WITH SPINAL CORD INJURIES	M.D 0640/B1/9-7-10	OGG 1091/19-7-10

Ο ΟΡΚΟΣ ΤΟΥ ΙΠΠΟΚΡΑΤΟΥΣ

 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  
ΟΡΚΟΝ ΤΟΝΔΕ ΚΑΙ ΞΥΓΓΡΑΦΗΝ ΤΗΝΔΕ' ΗΓΗΣΑΣΘ  
ΑΙ ΜΕΝ ΤΟΝ ΔΙΔΑΞΑΝΤΑ ΜΕ ΤΗΝ ΤΕΧΝΗΝ ΤΑΥΤΗ  
Ν ΙΣΑ ΓΕΝΕΤΗΣΙΝ ΕΜΟΙΣΙ, ΚΑΙ ΒΙΟΥ ΚΟΙΝΩΣΑΣΘΑΙ, Κ  
ΑΙ ΧΡΕΩΝ ΧΡΗΖΟΝΤΙ ΜΕΤΑΔΟΣΙΝ ΠΟΙΗΣΑΣΘΑΙ, Κ  
ΑΙ ΓΕΝΟΣ ΤΟ ΕΞ ΕΥΤΕΟΥ ΑΔΕΛΦΟΙΣ ΙΣΟΝ ΕΠΙΚΡΙΝ  
ΕΕΙΝ ΑΡΡΕΣΙ, ΚΑΙ ΔΙΔΑΞΕΙΝ ΤΗΝ ΤΕΧΝΗΝ ΤΑΥΤΗΝ  
ΗΝ ΧΡΗΖΩΣΙ 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  
ΔΙΔΙΤΗΜΑΣΙ ΤΕ ΧΡΗΣΟΜΑΙ ΕΠ' ΟΦΕΛΕΙΗ, ΚΑΜΝΟ  
ΝΤΩΝ ΚΑΤΑ ΔΥΝΑΜΙΝ ΚΑΙ ΚΡΙΣΙΝ ΕΜΗΝ, ΕΠΙ ΔΗΛΗ  
ΣΕΙ ΔΕ ΚΑΙ ΑΔΙΚΗ, ΕΙΡΞΕΙΝ.  ΟΥ ΔΩΣΩ ΔΕ ΟΥΔΕ  
ΦΑΡΜΑΚΟΝ ΟΥΔΕΝΙ ΑΙΤΗΘΕΙΣ ΘΑΝΑΣΙΜΟΝ, ΟΥΔΕΥ  
ΦΗΓΗΣΟΜΑΙ ΞΥΜΒΟΥΛΙΗΝ ΤΟΙΗΝΔΕ' ΟΜΟΙΩΣ ΔΕ ΟΥ  
ΔΕ ΓΥΝΑΙΚΙ ΠΕΣΣΟΝ ΦΘΟΡΙΟΝ ΔΩΣΩ.  ΑΓΝΩΣ Δ  
Ε ΚΑΙ ΟΣΙΩΣ ΔΙΑΤΗΡΗΣΩ ΒΙΟΝ ΤΟΝ ΕΜΟΝ ΚΑΙ ΤΕΧΝ  
ΗΝ ΤΗΝ ΕΜΗΝ.  ΟΥ ΤΕΜΕΩ ΔΕ ΟΥΔΕ ΜΗΝ ΛΙΘ  
ΙΩΝΤΑΣ, ΕΚΧΩΡΗΣΩ ΔΕ ΕΡΓΑΤΗΣΙΝ ΑΝΔΡΑΣΙ ΠΡ  
ΗΪΟΣ ΤΗΣΔΕ.  ΕΣ ΟΙΚΙΑΣ ΔΕ ΟΚΟΣΑΣ ΑΝ ΕΣΩ,  
ΕΞΕΛΕΥΣΟΜΑΙ ΕΠ' ΟΦΕΛΕΙΗ, ΚΑΜΝΟΝΤΩΝ, ΕΚΤ  
ΟΣ ΕΩΝ ΠΑΣΗΣ ΑΔΙΚΗΣ ΕΚΟΥΣΙΗΣ ΚΑΙ ΦΘΟΡΙΗΣ, Τ  
ΗΣ ΤΕ ΑΛΛΗΣ ΚΑΙ ΑΦΡΟΔΙΣΙΩΝ ΕΡΓΩΝ ΕΠΙ ΤΕ ΓΥ  
ΝΑΙΚΕΙΩΝ ΣΩΜΑΤΩΝ ΚΑΙ ΑΝΔΡΩΝ, ΕΛΕΥΘΕΡ  
ΩΝ ΤΕ ΚΑΙ ΔΟΥΛΩΝ.  Α Δ' ΑΝ ΕΝ ΘΕΡΑΠΕΙΑ,  
Η ΙΔΩ, Η ΔΚΟΥΣΩ, Η ΚΑΙ ΑΝΕΥ ΘΕΡΑΠΕΙΑΣ ΚΑΤΑ Β  
ΙΟΝ ΑΝΘΡΩΠΩΝ, Δ ΜΗ ΧΡΗ ΠΟΤΕ ΕΚΛΑΛΕΕΣΘΑΙ  
ΕΞΩ, ΣΙΓΗΣΟΜΑΙ, ΑΡΡΗΤΑ ΗΓΕΥΜΕΝΟΣ ΕΙΝΑΙ ΤΑ ΤΟ  
ΙΑΥΤΑ.  ΟΡΚΟΝ ΜΕΝ ΟΥΝ ΜΟΙ ΤΟΝΔΕ ΕΠΙΤΕΛΕ  
Δ ΠΟΙΕΟΝΤΙ, ΚΑΙ ΜΗ ΞΥΓΧΕΟΝΤΙ, ΕΙΗ ΕΠΑΥΡΑΣΘ  
ΑΙ ΚΑΙ ΒΙΟΥ ΚΑΙ ΤΕΧΝΗΣ ΔΟΞΑΖΟΜΕΝΩ, ΠΑΡΑ Π  
ΑΣΙΝ ΑΝΘΡΩΠΟΙΣ ΕΣ ΤΟΝ ΔΙΕΙ ΧΡΟΝΟΝ ΠΑΡΑΒΑΙ  
ΝΟΝΤΙ ΔΕ ΚΑΙ ΕΠΙΟΡΚΟΥΝΤΙ, ΤΑΝΑΝΤΙΑ ΤΟΥΤΕΩΝ.

