

QAG Appendix I - Medical curriculum and course outlines

Table of content		
1	MED101	Medical Biochemistry I
2	MED102	Cellular & Molecular Biology
3	MED103	Physics for Biomedical Sciences
4	MED104	Introduction to Epidemiology
5	MED105	Biostatistics
6	MED106	Anatomy I
7	MED107	Histology - Embryology I
8	MED108	Physiology I
9	MED109	Medical Biochemistry II
10	MED110	Introduction to Genetics
11	MPR101	Clinical Practicum I
12	MED201	Anatomy II
13	MED202	Histology - Embryology II
14	MED203	Physiology II
15	MED204	Human Nutrition & Metabolism
16	MED205	Family Medicine & Public Health
17	MED206	Neuroscience
18	MED207	Medical Psychology
19	MED208	Basic Immunology & Microbiology
20	MED209	Introduction to Clinical Skills
21	MED301	Pathophysiology I
22	MED302	Pathology I
23	MED303	Pharmacology I

24	MED304	Semiology I
25	MED305	General Surgery
26	MED306	Pathophysiology II
27	MED307	Medical Microbiology
28	MED308	Pathology II
29	MED309	Pharmacology II
30	MED310	Semiology II
<u>Clinical Years</u>		
31	MED407	Clinical Training I (Respiratory and Cardiovascular System)
32	MED417	Clinical Training II (Digestive System and Hematology)
33	MED322	Diagnosis By Imaging
34	MED408	Clinical Training III (Infectious Diseases and Clinical Microbiology)
35	MED418	Clinical Training IV (Endocrine System, Uro-Nephrological System and Male Genital Tract)
36	MED509	Clinical Training V (Musculoskeletal System)
37	MED519	Clinical Training VI (Nervous System and Psychiatry)
38	MED428	Clinical Bioethics and Legal Medicine
39	MED510	Clinical Training VII (Pediatrics)
40	MED520	Clinical Training VIII (Dermatology)
41	MED530	Medical Therapeutics

42	MED661	Symptoms and Interpretation of Complementary Examination Procedures
43	MED611	Professional Traineeship I (Clinical Training IX (Obstetrics and Gynecology))
44	MED621	Professional Traineeship II (Clinical Training X (Ophthalmology))
45	MED631	Primary Care
46	MED612	Professional Traineeship III (Clinical Training XI (Otorhinolaryngology))
47	MED622	Professional Traineeship IV (Clinical Training XII (ER, Toxicology, Oncology and Palliative Care))
<u>Major Electives</u>		
48	MED216	Medical Humanities and History
49	MED217	Genomics
50	MED218	Systems Biology
51	MED601	Healthcare Management
52	MED602	Clinical Embryology
53	MED603	Rehabilitation Medicine
54	MED604	Research Methodology and Scientific Writing
55	MED605	Maxillofacial surgery
56	MED606	Interventional Radiology

Course Title	Medical Biochemistry I				
Course Code	MED101				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 1 st Semester				
Teacher's Name	Ioannis Patrikios				
ECTS	7	Lectures / week	3 Hours	Laboratories / week	4 Hours
Course Purpose and Objectives	<ul style="list-style-type: none"> The objective of the course is to discuss the principal biochemical and metabolic processes in the body, their pathways and the role of the cell membrane and the different enzymes The process of intra- and inter- cellular communication 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Identify the principal classes of biomolecules and explain their function or activity with regard to their chemical structure. Explain the interactions of simple biomolecules giving rise to complex supramacromolecular structures. Describe the structure and properties of water and to understand its macromolecular structure, its properties and biological functions. Discuss the general principles of enzymology and the importance of enzymes as essential instruments in cellular metabolism. Discuss the biosynthetic pathways and metabolism of amino acids, fatty acids and protein synthesis. Describe the role of biological membranes in the processes which generate and use biological energy and also maintain the compartmentalization of the vital processes. Explain the molecular basis of the signal transduction pathways. Discuss and explain the degradation of Fatty acids, Pentose phosphate pathway, Electron Transport. 				
Prerequisites	None		Co-requisites	None	
Course Content	<p>Biomolecules and the interactions of simple biomolecules giving rise to complex supramacromolecular structures</p> <p>Phosphoglyconic acid pathway and pentose phosphate</p> <p>Structure and properties of water, its macromolecular structure, its properties and biological functions.</p> <p>Enzymology and the roles of enzymes as essential instruments</p> <ul style="list-style-type: none"> in cellular metabolism, in the principal metabolic strategies to obtain and use energy 				

	<p>Bioenergetic balances. Biological membranes and the processes which generate and use biological energy</p> <ul style="list-style-type: none"> • Molecular basis of the signal transduction pathways. Introduction of writing a scientific report. • Introduction of Poster presentation. • Introduction of Oral presentation
Teaching Methodology	Face-to-face
Bibliography	<p>Textbook of Biochemistry with Clinical Correlations; Devlin, Thomas M.; 7th; 978-0470281734; John Wiley; 2010 Biochemistry: International Edition; Berg, J.M. / Tymoczko, J.L.; 7th; 978-1429276351; W. H. Freeman; 2011</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Study Guide for Chemistry: An Introduction to General, Organic, and Biological Chemistry; Karen C. Timberlake; 11; 978-0697250032; Prentice Hall; 2011 Clinical Biochemistry: Metabolic and Clinical Aspects; Marshall William; 2nd; 978-0443101861; Churchill Livingstone; 2008 Lehninger Principles of Biochemistry; David L. Nelson; 978-1429208925; W. H. Freeman; 2008</p>
Assessment	<p>Midterm Examination: 30% Final Examination: 40% Assignment/Lab/ Class Participation: 30%</p>
Language	English

Course Title	Cellular & Molecular Biology				
Course Code	MED102				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 1 st Semester				
Teacher's Name	Professor Anastasis Stephanou				
ECTS	7	Lectures / week	3 hrs	Laboratories / week	4 hrs
Course Purpose and Objectives	<p>This course is intended to give the student a broad overview of cellular and molecular biology with respect to human cells. It is designed to acquaint students with the fundamental terms, concepts, and principles of the functioning of human cells in normal and abnormal states. The course will prepare the students to be more familiarized with their courses in cellular physiology and cellular histology. A key part of the course will be the ability to dissect problem scenarios into its key features by thinking in an integrated manner and to looking at problems from different perspectives.</p>				
Learning Outcomes	<p>Upon successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> • Describe the intricate relationship between various cellular structures and their corresponding functions. • Describe the relationships existing between the cells and their environment. • Explain cellular processes and mechanisms that lead to changes in cellular functions as well as examples of pathological state • Discuss the different transmembrane transport mechanisms and their importance in the cellular physiology. • Describe the mechanisms of cellular division, the phases of the cell-division cycle and its regulatory mechanisms. • Describe the general characteristics of the processes of gametogenesis and insemination. • Explain the processes of cell division: cleavage, blastulation and gastrulation in the human embryo. • Discuss the effects of ageing on the cellular structure and function and to understand the process of cellular differentiation and apoptosis. • Gene transcription and regulation. • Protein synthesis • Describe the nature of progenitor stem cells and their principal characteristics. • Understand the process of cell differentiation and its role in the production of specialized cells 				

	<ul style="list-style-type: none"> Define the fundamental changes in the normal structure and function of cells and their relationships to the appearance of different types of pathological states. Students will demonstrate that they can perform a set of basic laboratory skills 												
Prerequisites	None	Co-requisites	None										
Course Content	<p>Students will familiarize themselves with the following:</p> <ul style="list-style-type: none"> Normal structure and function of the eukaryotic cells. Relationships between cells and their environment. Transport mechanisms through membranes. Cell division mechanisms, the cell-division cycle and control Mechanisms. Gene expression and regulation Cleavage, blastulation and gastrulation in the human embryo. Effects of ageing and apoptosis in normal and disease processes Progenitor stem cell differentiation and specialized cells. Fundamental Changes in the normal structure and function of Cells. <p>Basic laboratory techniques for the analysis of DNA, RNA and proteins Also techniques for culturing cells.</p>												
Teaching Methodology	Face-to-face												
Bibliography	Essential Cell Biology (third edition) Alberts, Bray, Hopkins, Johnson, Lewis, Raff, Roberts, Walter												
Assessment	<table border="1"> <tr> <td>Midterm Exam</td> <td>30</td> </tr> <tr> <td>Final Exam</td> <td>40</td> </tr> <tr> <td>Lab Reports</td> <td>20</td> </tr> <tr> <td>Oral & Class Participation</td> <td>10</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>			Midterm Exam	30	Final Exam	40	Lab Reports	20	Oral & Class Participation	10		100%
Midterm Exam	30												
Final Exam	40												
Lab Reports	20												
Oral & Class Participation	10												
	100%												
Language	English												

Course Title	Physics for Biomedical Sciences				
Course Code	MED103				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 1 st Semester				
Teacher's Name	Irene Polycarpou & Prodromos Kaplanis				
ECTS	6	Lectures / week	4	Laboratories / week	0
Course Purpose and Objectives	This course is intended to introduce students to basic principles, concepts and applications of modern physics that are related and useful to biomedical sciences.				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Recall the basic concepts of waves and acoustics. • Explain the physical principles of ultrasound and the interaction of ultrasound with matter. • Describe the properties of geometrical optics, the function of magnifying lenses, the basic principle of simple optical microscope, as well as the function of the vision sensor. • Recall the origin of LASER radiation and its behavior when passing through matter. • Describe the physical principles of electromagnetic waves and electromagnetic radiation. • Describe the modern physics applications in life sciences and medicine in general. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>In that regard, students will familiarize themselves with:</p> <ul style="list-style-type: none"> • Introduction and Fundamental Physics: Units of measurements, physical quantities, unit conversion, International System of Units, Scientific Notation, position, velocity, acceleration, force, Newton's law, work and energy, gravity, center of mass • Waves and Resonance: Resonance, wave concepts, traveling waves, waves at a boundary, standing waves and resonance. • Acoustics: Sound waves, intensity of the sound wave, producing sound, the human ear: physiology and function, the Doppler Effect in sound. 				

	<ul style="list-style-type: none"> • Ultrasound: Generation and detection of ultrasound, ultrasound propagation mechanisms, ultrasound-tissue interactions, biomedical applications of ultrasounds, protection in diagnostic applications. • Electric Forces and Fields: Electric charge, Coulomb's Law, Conductors and Insulators, Electric Fields, Electric Potential Energy. Electric Current: Electric current and Resistance, Ohm's Law and electrical measurements. • Magnetic Fields: Magnetic Fields and forces, torque and force on a magnetic dipole. • Electromagnetic radiation: Electromagnetic waves, characteristics of electromagnetic radiation, propagation of electromagnetic radiation, electromagnetic spectrum, interactions of electromagnetic waves with biological tissue, risk limits. • Geometric Optics: optical properties of matter, light at an interface, optical fibers, application of optical fibers in medicine • Optical Lenses and Devices: optical lenses, the human eye, optical microscope. • LASER Radiation: laser radiation, types of laser devices, laser-tissue interactions, applications of laser in biology and medicine, laser safety. • Physics in Nuclear Medicine: radiopharmaceuticals, SPECT, PET. • Physics in Radiodiagnostics and Radiotherapy: tomography, medical imaging, teletherapy, brachytherapy, 										
Teaching Methodology	Face- to- face										
Bibliography	<ul style="list-style-type: none"> • Physics of the Life Sciences, by J. Newman • University Physics, by H. Young & R. Freedman • Fundamentals of Physics, by D. Halliday, R. Resnick, and J. Walker • Schaum's Outline of College Physics, by F.J. Bueche, E. Hecht 										
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment</td> <td>20%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment	20%	Class participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment	20%										
Class participation	10%										
	100%										
Language	English										

Course Title	Introduction to Epidemiology				
Course Code	MED104				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 1 st Semester				
Teacher's Name	Demetris Paraskevis & Giagkos Lavranos				
ECTS	5	Lectures / week	3 hours	Laboratories / week	0 hrs
Course Purpose and Objectives	<p>Objective: This course provides an introduction to the skills needed by public health professionals and clinicians to critically interpret the epidemiologic literature and be taught with an emphasis on causal inference in epidemiologic research.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate expertise regarding the principles and applications of epidemiology and research methodology. • Define the epidemiological study designs and the bias, the appropriate disease measures and measures of associations. • Describe criteria for characterizing the causality of associations. • Analyze and compare biomedical studies using quality control scales • Describe and discuss the role and contribution of epidemiology to global health. • Understand the major risk and protective factors for the conditions that constitute the most common causes of mortality and morbidity 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Basic principles and methods of the design, conduct and interpretation of epidemiologic studies, including descriptive studies, observational analytic studies (case-control and cohort), and randomized clinical trials. • Address the calculation and interpretation of measures of disease frequency and association; the assessment of association versus causation in the interpretation of study results; and an introduction to issues related to the evaluation of chance, bias, confounding, and effect modification. • Genetic epidemiology • Environmental epidemiology • Epidemics and epidemiology of infections • Chronic disease epidemiology (e.g. allergies, cardiovascular disease and cancer) • Epidemiology across the life span and in specific populations 				

Teaching Methodology	Face-to-face								
Bibliography	Epidemiology: An Introduction; Kenneth J. Rothman; 978-0195135541; OUP USA; 2002 ADDITIONAL RECOMMENDED TEXTBOOKS: Epidemiology for Public Health Practice; Friis, Robert H.; 4th; 978-0763751616; Jones and Bartlett Publishers; 2008								
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Mid-Term Examination	20%								
Final Examination	40%								
Assignment /Lab	30%								
Class Participation	10%								
Language	English								

Course Title	Biostatistics				
Course Code	MED105				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 1 st Semester				
Teacher's Name	Demetris Lamnisis				
ECTS	5	Lectures / week	2 Hours	Laboratories / week	3 Hours
Course Purpose and Objectives	This course is intended to provide an introduction to statistical methods and reasoning. Students will understand the concept of sampling variation and its critical role in the construction of confidence intervals and hypothesis testing. The statistical methods will be applied to simple medical datasets using the statistical software SPSS and results will be interpreted.				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate expertise regarding the basic concepts of biostatistics and their applications to medical science. • Interpret the findings of the most frequently used statistical methods in medical science. • Critically review the statistical methods and results of clinical trials presented in published articles <p>Laboratory skills</p> <ul style="list-style-type: none"> • Manage a personal computer independently and demonstrate that they can carry out the most common statistical methods and techniques. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>In that regard, students will familiarize themselves with:</p> <ul style="list-style-type: none"> • Basic concepts and types of data • Describing data with tables and charts • Describing data with numeric summary values • Probability and Normal distribution • Confidence interval for a population mean • Estimating the difference between two parameters 				

	<ul style="list-style-type: none"> • Testing hypotheses about the difference between two population parameters • Testing hypotheses about the ratio of two population parameters and the x2 test • Measuring the association between two numerical variables • Straight line models: linear regression • Power and sample size in study designs <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Data manipulation • Frequency tables and histograms • Descriptive summary measures and box-plot • Normal distribution and z-scores • Distribution of sample means and standard error • Confidence interval for a population mean • Estimate the difference between the means of two independent populations • Independent samples t-test and ANOVA • Association between two categorical variables and the x² test • Correlation coefficients • Linear regression 										
Teaching Methodology	Face- to- face										
Bibliography	<p>Bowers David (2008). <i>Medical Statistics from Scratch: An introduction for Health Professionals</i>. Second Edition, John Wiley & Sons, 2008</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Kirkwood Betty, Sterne Jonathan (2003). <i>Essential Medical Statistics</i>. Second Edition, Blackwell Science</p> <p>Petrie A, Sabin C (2009). <i>Medical Statistics at a glance</i>. Third Edition, Wiley-Blackwell</p>										
Assessment	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Mid-Term Examination</td> <td style="width: 30%; text-align: center;">30%</td> </tr> <tr> <td>Final Examination</td> <td style="text-align: center;">40%</td> </tr> <tr> <td>Assignment /Lab</td> <td style="text-align: center;">20%</td> </tr> <tr> <td>Class participation</td> <td style="text-align: center;">10%</td> </tr> <tr> <td></td> <td style="text-align: center;">100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab	20%	Class participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment /Lab	20%										
Class participation	10%										
	100%										
Language	English										

Course Title	Anatomy I				
Course Code	MED106				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1st Year / 2nd Semester				
Teacher's Name	Professor Elizabeth O. Johnson Dr. Dimitris Ntourakis Dr. Kostas Tsamis Dr. Neophytos Demetriadis				
ECTS	6	Lectures / week	2 Hours	Laboratories / week	4 Hours
Course Purpose and Objectives	<p>This course aims to familiarize students with the structure of the musculoskeletal system, as well as the integumentary, endocrine, hemopoietic and lymphatic systems of the body, and obtain an understanding of the regional anatomy to describe structures and their relationships to each other, through the study of Gross, Surface and Radiological Anatomy. Detailed Gross Anatomy of the human body, including sectional anatomy, anatomical basis of clinical conditions, living anatomy and radiologic anatomy will be presented. Students will address Clinical Correlations of structure and functions of human body and the anatomical basis for clinical presentations. Surface Anatomy will include the study of Important bony landmarks of the body with important vessels and nerves projections. Radiological Anatomy will include identification of normal anatomical features in commonly used radiographs (plain & contrast), computerized tomography (CT) scans and MRI.</p> <p>The course is designed to integrate a 3-dimensional visualization of structures with function (physiology) and microstructure (histology), and enable students to use that knowledge to solve problem. All lectures, laboratories, group discussions, and clinical problems emphasize integrations of basic science concepts with clinical significance and applications.</p>				
Learning Outcomes	Upon successful completion of this course students should be able to:				

	<ul style="list-style-type: none"> • Demonstrate understanding of the normal structure of the human body with emphasis on the musculoskeletal, integument, endocrine, hemopoietic and lymphatic systems • Demonstrate effective use of anatomical terminology • Identify and describe the morphology of the bones, joints, muscles, nervous and vascular components of the musculoskeletal system. • Relate the structural characteristics of the anatomical elements of the musculoskeletal system to their function. • Recognize common anatomical variations • Apply anatomical knowledge to interpret two-dimensional radiologic images, such as plain radiographs, CT and MRI scans. • Recognize the anatomy beneath the skin surface, for the purpose of palpating and locating anatomical structures used in clinical practice • Demonstrate skills in problem-solving and critical thinking by relating symptoms to underlying anatomy • Demonstrate an ability to effectively communicate with peers and present anatomical information (written and oral) clearly and concisely • Demonstrate effective collaborative skills and professionalism <p>Laboratory skills</p> <ul style="list-style-type: none"> • Know and locate reliable surface anatomy landmarks to accurately locate and palpate deep structures • Identify elements of the musculoskeletal, integument, endocrine, hemopoietic and lymphatic systems using multiple three-dimensional reconstructions from models and computer virtual images • Identify normal anatomical structures of the musculoskeletal, integument, endocrine, hemopoietic and lymphatic systems in radiographs, computerized tomography (CT) scan, MRI etc. and correlate with cross sections of the body • Recognize the normal range of variation anatomical structures 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In relations to the following primary Structure & Function (S&F) Modules</p> <ul style="list-style-type: none"> • Musculoskeletal Anatomy Upper Extremity Module • Musculoskeletal Anatomy Lower Extremity Module • Musculoskeletal Anatomy Back Module • Musculoskeletal Anatomy Thoracic Wall Module • Musculoskeletal Anatomy Abdominal Wall Module • Hemopoietic & Lymphoid Module • Endocrine Module • Integumentary System Module 		

	<p>Students will familiarize themselves with:</p> <ul style="list-style-type: none"> • Morphological Characteristics of the Musculoskeletal Elements • Structural Characteristics of the Joints and their Function • Vascular (blood vessels and lymphatic system) and Nervous Tissue Elements of the Musculoskeletal System • Structural Characteristics of muscles and ligaments and their relationship with joints • Anatomy of the head, neck, spine and limbs • Movement and its relationship to the structure and function of the Musculoskeletal System • Surface landmarks for deep structures and palpation (surface anatomy) • Radiographic anatomy of organ systems <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observation of structures of musculoskeletal system of extremities, back, thoracic wall and abdominal wall, with related vasculature and innervation on high fidelity models • Observation of elements of endocrine, lymphatic and integumentary system on high fidelity models • Observation musculoskeletal system of extremities, back, thoracic wall and abdominal wall, with related vasculature and innervation on virtual anatomy programs and in cross-section • Identify, palpate and draw (on human subjects) anatomical bony landmarks • Understand the functional anatomical basis for clinical examination of muscle strength, vasculature and peripheral nerve integrity. • Identify structures of musculoskeletal system of extremities, back, thoracic wall and abdominal wall, with related vasculature and innervation on modern imaging modalities (radiographs, CTs, MRIs) • Be able to apply understanding of normal anatomy to examine for abnormalities in structure, (eg spinal deformities with Adam’s forward bend test in living anatomy, or with measuring Cobb Angle of deformity on radiographs.)
Teaching Methodology	Face- to- Face
Bibliography	<p>Drake, Vogl and Mitchell. Gray’s Anatomy for Students. Elsevier, 3rd ed., 2014</p> <p>Netter, FH, Atlas of Human Anatomy. Elsevier, 6th ed., 2014</p>

Assessment	Midterm <i>(practical 15% & written 15%)</i>	30%
	Final Practical <i>(spot – station rotation & objective structured practical exam)</i>	25%
	Final Written <i>(MCQs, Short answer to clinical problems)</i>	25%
	Viva voce	5%
	Clinical problems <i>(team effort)</i>	5%
	Class participation	10%
	TOTAL	100%
Language	English	

Course Title	Histology - Embryology I				
Course Code	MED107				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	Prof. Elpida-Niki Emmanouil-Nikoloussi				
ECTS	6	Lectures / week	2 Hours	Laboratories / week	4 Hours
Course Purpose and Objectives	<p>This course is intended to familiarize students with the microstructure (histology) and evolution (embryology) of the musculoskeletal system, as well as the integumentary, endocrine, hemopoietic and lymphatic systems of the body, and obtain an understanding of their regional histology to describe structures and their relationships to each other. It is designed to acquaint Medical students with the fundamental terms, concepts, and principles of the above systems and their cellular population and extracellular matrix morphological functions and structure and to integrate microstructure tissue formation (histology) with evolution of human development (embryology) of the above described systems. It will serve as a connective foundation upon which, Structure and Function courses as Anatomy-Histology-Embryology-Physiology and Biochemistry in Medical sciences will be based.</p> <p>The course is designed to integrate with lectures, laboratories, group discussions, Computer Assisted Learning (CAL) and clinical case problems, a microscopical visualization of those systems' microstructures (in histology) and their development (in embryology), with structure (anatomy) and function (physiology) and enable students to use that knowledge to solve problems in clinical cases.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate the understanding of the normal microstructure and evolution of the human body with emphasis on the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems. 				

- Illustrate, recognize, identify and describe under the microscope the microstructure and function of the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems
- Describe and demonstrate an understanding of microscopic organization under diverse types of microscope, the relationships of the cells, the extracellular matrix and the tissues constituting the organs and systems of the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems
- Describe and explain the methods of biopsies performed in the above described human organs and systems for diagnostic purposes for identification of fundamental changes of their normal structure and function and accurate diagnosis of diseases.
- Understand the role of Histology for accurate diagnosis of diseases into these organs and systems.
- Describe and explain the mechanisms of tissue degeneration of the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems with inputs for repair and regeneration at the different stages of life.
- Understand the role of Embryology for accurate diagnosis of diseases caused by teratogenic factors to the above described systems.
- Describe and predict how alteration of developmental events due to teratogenic factors would cause several types of individually or combination of congenital malformations which would affect the anatomical and physiological function and structure of the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems during life..

All the above will acquaint Medical students to demonstrate effective self-assessment skills, communicative and collaborative skills, communication with peers, discussions with clinicians and presentation of structural and functional information for the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems microstructure, evolution and repair.

Laboratory skills

- Use the optical and electron microscope (Transmission and Scanning Microscope) by tissue slides and photographs to identify the different cell population and microstructural organization of the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems

	<ul style="list-style-type: none"> • Understand the role of histology and embryology for accurate diagnosis in diverse diseases of the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems • Describe and identify stages of embryological differentiation and diagnosis of birth defects of the musculoskeletal, integument, exocrine, endocrine, hemopoietic and lymphatic systems • Identify cellular ,tissue and organs' histological and embryological structure and microstructure from the above described organs with 3-D high fidelity models and Computer Assisting Learning-CAL. 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In that regard, students will familiarize themselves with the following Structure and Function (S&F) Modules:</p> <ul style="list-style-type: none"> • Microstructural organization and development of the Musculoskeletal system and its disorders. • Morphological organization and development of the Integumentary System and its disorders. • Morphological organization and development of the Exocrine System and its disorders. • Morphological organization and development of the Endocrine System and its disorders. • Hemopoiesis. • Morphological organization and development of the Hemopoietic System and its disorders. • Morphological organization and development of the Lymphatic System and its disorders. <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observations of Microstructural organization and development of the Musculoskeletal system using light and electronic microscope photographs ,videos and Computer Assisting Learning. • Observations of Microstructural organization of the integumentary system • Observations of Microstructural organization of the exocrine system • Observations of Microstructural organization of the endocrine System • Observations of Microstructural organization of the Hemopoietic system • Observations of normal and pathological Blood smears. 		

	<ul style="list-style-type: none"> • Observations of Microstructural organization of the lymphatic system • Observations of tissues from the systems described into this Structure and Function (S&F) Module by light and electron microscopically Computer Assisted Learning-CAL methods. • Observations of normal and pathological embryonic tissues and organs from the systems described into this Structure and Function (S&F) Module by light and electron microscopy. • Drawing methods for understanding the functional structure of organs and systems described above. • Observations of various types of high fidelity 3D embryonic organs from the systems described above models. • Clinical Seminars and Discussions of pathological conditions in comparison with normal conditions from the organs and systems described into this Structure and Function (S&F) Module. • Clinical Seminars and Discussions with videos for evaluation of congenital malformations and birth defects from the systems described into this Structure and Function (S&F) Module. •
Teaching Methodology	Face- to- face
Bibliography	<p>Junqueira’s Basic Histology: Text & Atlas; Antony L. Mesher, PhD, Mc Graw Hill Education LANGE, 13th Edition 2013 ,New York, Chicago,San Francisco,Lisbon, London,Madrid, Mexico City, Milan, New Delhi,San Juan,Seoul,Singapore,Sydney, Toronto,International Edition ISBN 978-1-259-07232-1,or, MHID 1-259-07232-0</p> <p>Netter's Essential Histology; William Ovalle,Patrick C. Nahirney, Illustrations by Frank H. Netter; Elsevier Saunders Philadelphia, Second Edition, 2013 ISBN 978-1-4557-0631-0</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS: Human Histology; Stevens, A. / Lowe, J.S.; 3rd; 978-0323036634; Mosby; 2004</p> <p>Color Atlas of Histology; Leslie G. Gartner; 978-1451107210; Lippincott Williams and Wilkins; 2010</p> <p>Color Atlas of Cytology, Histology, and Microscopic Anatomy. Wolfgang Kuehnel, Thieme. Stuttgart-New York. ISBN 3-13-562404-8 (GTV), ISBN 1-58890-175-0 (TNY), 4th Edition, 2003</p>

	Before we are born. Essentials of Embryology and Birth Defects. Keith L. Moore, T.V.N. Persaud, Mark G. Torcha. 8 th Edition 2013, Philadelphia, Elsevier Saunders Edition, ISBN 978-1-4377-2001-3												
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination(Practical & Written)</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>10%</td> </tr> <tr> <td>Clinical problems(team effort)</td> <td>10%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination(Practical & Written)	40%	Assignment /Lab	10%	Clinical problems(team effort)	10%	Class participation	10%		100%
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Final Examination(Practical & Written)	40%												
Assignment /Lab	10%												
Clinical problems(team effort)	10%												
Class participation	10%												
	100%												
Language	English												

Course Title	Physiology I				
Course Code	MED 108				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	Professor Dr. Theodoros Xanthos & Dr. Konstantinos Tsioutis				
ECTS	5	Lectures / week	2 hrs	Laboratories / week	4 hrs
Course Purpose and Objectives	The course is intended to give the students a broad overview of specific structures of the human body and their related physiology. The course is intended to familiarize students with the basic concepts of physiological procedures and to allow them to proceed to more advanced biomedical and medical courses				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Explain the physiological anatomy of the muscles and apply their knowledge from biology to analyze the components of muscle contraction • Describe remodeling of muscle to match contraction • Interpret the role of acetylcholine in muscle contraction • Describe the control of muscle contraction • Describe the molecular and cellular composition of blood. • Discuss the general functions of each one of the blood cell types. • Interpret a full normal blood cell count and blood serum • Explain the principles of blood haemostasis and coagulation. • Identify the various characteristics of the innate and adaptive responses of the human immune system. • Interpret Body temperature regulation • Summarize the role of systemic chemical messengers (hormones) • Discuss pituitary hormones and their regulation by the hypothalamus • Discuss the thyroid hormones • Describe the function of adrenocortical hormones • Describe the role and function of insulin and glucagon • Discuss the function of parathyroid hormone, calcitonin & vitamin D <p>Laboratory skills</p> <ul style="list-style-type: none"> • Perform and understand the physiologic principles in simulation scenarios related to muscle physiology, hemopoietic function and endocrine processes 				

	<ul style="list-style-type: none"> Discuss and identify the physiologic processes underlying disease processes in clinical cases of the musculoskeletal, hemopoietic-lymphoid and endocrine systems. 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In that regard, students will familiarize themselves with:</p> <ul style="list-style-type: none"> Muscle physiology Calcium metabolism in bones The components of the hemopoietic system, along with their function Blood types and blood transfusion Types of immunity and allergic reactions Skin and its role in thermoregulation The exocrine and endocrine system <p>Laboratory Exercises</p> <ul style="list-style-type: none"> Simulation patients Clinical Cases 		
Teaching Methodology	Face-to-face		
Bibliography	Guyton and Hall Textbook of Medical Physiology; John E. Hall; 12th; 978-1416045748; Saunders; 2010		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Clinical Problems	10%	
	Log books with reflection	10%	
	Class participation (team effort)	10%	
		100%	
Language	English		

Course Title	Medical Biochemistry II				
Course Code	MED109				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	Ioannis Patrikios				
ECTS	6	Lectures / week	2 Hours	Laboratories / week	4 Hours
Course Purpose and Objectives	<ul style="list-style-type: none"> The objective of the course is to familiarize students with the biochemical pathways and their relationship with the pathophysiology of diseases and the application of biochemical diagnostic procedures 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Analyse and evaluate the biochemical processes as the fundamental basis of life and of all vital processes and functions in the human body. Analyze the principal metabolic strategies that are used by the human body in relation to energy. Describe the principal biochemical metabolic processes, their interrelationships and their role in maintaining bioenergetic balances in the body Relate the metabolic changes in pathophysiological processes to the most common biochemical analyses; to analyse and evaluate the origin of changes and their physiological consequences. Describe the role of hormones and their relationship to disease processes Describe the fundamentals employed in designing the principal biochemical techniques, especially those most utilized for diagnosis (e.g. electrophoresis, ELISA, etc.). Write and prepare a scientific paper and how to prepare poster presentation. Experience and organize oral presentations/case reports. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> Metabolic changes in pathophysiological processes. Oxidation and biosynthesis of fatty Biosynthesis of membrane lipids and steroid hormones Biosynthesis of amino acids, nucleotides and nucleic acids Protein synthesis Glycolysis and gluconeogenesis Citric acid cycle, Cori's cycle. Metabolic processes of the principal types of biomolecules; and their interrelations. 				

	<ul style="list-style-type: none"> • Hormones, hormonal action and the biochemical processes related organs • Mitochondrial diseases. • Glucose metabolism, insulin resistance and, metabolic syndrome • Metabolism of fats and hyperlipidaemia • Functional biochemistry • Laboratory evaluation of liver function, of tumor markers and of muscle fiber-myocardial infarcts.
Teaching Methodology	Face-to-face
Bibliography	<p>Textbook of Biochemistry with Clinical Correlations; Devlin, Thomas M.; 7th; 978-0470281734; John Wiley; 2010</p> <p>Biochemistry: International Edition; Berg, J.M. / Tymoczko, J.L.; 7th; 978-1429276351; W. H. Freeman; 2011</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Study Guide for Chemistry: An Introduction to General, Organic, and Biological Chemistry; Karen C. Timberlake; 11; 978-0697250032; Prentice Hall; 2011</p> <p>Clinical Biochemistry: Metabolic and Clinical Aspects; Marshall William; 2nd; 978-0443101861; Churchill Livingstone; 2008</p> <p>Lehninger Principles of Biochemistry; David L. Nelson; 978-1429208925; W. H. Freeman; 2008</p> <p>Harpers Illustrated Biochemistry; Harper, H./Robert, K. Murray; 29th; 978-0071765763; McGraw-Hill; 2012</p>
Assessment	<p>Midterm Examination: 30%</p> <p>Final Examination: 40%</p> <p>Assignment/Lab/ Class Participation: 30%</p>
Language	English

Course Title	Introduction to Genetics				
Course Code	MED110				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	Prof. Anastasis Stephanou				
ECTS	5	Lectures / week	2 hrs	Laboratories / week	4 hrs
Course Purpose and Objectives	<p>This course is intended to give the student a broad overview of basic principles underlying general and medical genetics. The students will also gain current knowledge in the clinical context, covering from the genome structure and function to mutations, screening for inherited disorders. A key part of the course will be the ability to dissect problem scenarios into its key features by thinking in an integrated manner and to looking at problems from different perspectives.</p>				
Learning Outcomes	<p>Upon successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> • Discuss the basic concepts of human genetics • Describe the molecular basis of monogenic diseases • Identify the genetic components of polygenic and multifactorial disease. • Describe the relationship between gene structure and function and its implication in the development of genetically-based diseases • Explain the importance of the study of population genetics and their relationship with the study of genetic diseases. • Describe the chromosome theory, molecular genetics and quantitative and evolutionary genetics • Debate the contribution of current advances in molecular genetic research and its implementation in clinical practice. • Evaluate genetic problems/abnormalities which are involved in the development of clinical pathological cases. • Demonstrate that they have acquired practical skills, through participation in real life and/or in virtual fashion, of all the basic analytical genetic techniques and studies in the various clinical laboratories. • Apply quantitative problem-solving skills to genetics problems and issues. • Select and apply experimental procedures to solve genetic problems • Demonstrate the ability to use computers as information and research tools. 				

Prerequisites	None	Co-requisites	None
Course Content	<p>Students will familiarize themselves with the following:</p> <ul style="list-style-type: none"> • Fundamentals of human genetics. • The chromosome and the molecular basis of monogenic, polygenic and multifactorial diseases. • Polymorphic DNA • Gene structure and function • Genetically-based diseases and Mendel's laws • Population genetics. • Current advances in molecular genetic research and their implementation in clinical practice • Basic analytical techniques in genetic studies • Diagnosis and prevention of genetic diseases. <p>Applying basic laboratory techniques for the analysis of DNA and manipulating DNA therapeutically</p>		
Teaching Methodology	Face-to-face		
Bibliography	Essential Medical Genetics;; Connor, M. / Ferguson, M.; 978-1405169745; Wiley-Blackwell; 2011		
Assessment	Midterm Exam	30	
	Final Examination	40	
	Lab Reports	20	
	Oral & Class Participation	10	
		100%	
Language	English		

Course Title	Clinical Practicum I				
Course Code	MPR101				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	George Petrikkos / Giagkos Lavranos				
ECTS	2	Lectures / week	0 hrs	Laboratories (Clinic) / week	4 hrs
Course Purpose and Objectives	<p>Objective: The overall objective is to provide the students with general and safety information about the hospitals and to identify the medical student roles, responsibilities and professional and clinical conduct.</p>				
Learning Outcomes	<p>Upon successful completion of the Clinical Practicum I, students should, with regards to both adults and children alike, be able to:</p> <ul style="list-style-type: none"> • Familiarize themselves with hospitals' and medical centres' range of capabilities, structure, function, administration and their existing policies. • Provide guidance to students on expectations during their clinical orientation/training and core clerkship rotations. • Acquire experience and learn skills in line with the written, verbal information and the educational materials presented to students for their future clinical clerkship. • Develop the communication and basic inter-professional skills. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>This practicum provides an introduction to the practice of medicine. Techniques of patient communication and physical examination are taught, and material related to professional development introduced. Problem-based learning integrates multiple perspectives, including:</p> <ul style="list-style-type: none"> • Characteristics of the healthcare system, its structure and core functions • Dressing code and etiquette, hand hygiene and lab biosafety • Information management, data processing and protection • Clinical laboratory activities and management • Communication skills: patient's consent and doctor-patient relationships • Communication skills under challenging conditions: children, pregnancy, elderly, immigrants, addictions and stupor/coma 				

Teaching Methodology	Clinical Orientation/training in medical centers including state and private hospitals dedicated to adults, children, pregnant women and special populations (Neurology Institute, Oncology Center, Thalassemia Center)						
Bibliography	Relevant notes and papers to be prepared and distributed by the Coordinators and/or the Clinical Instructors.						
Assessment	<table border="0"> <tr> <td>Active Participation /instructor assessment</td> <td>80%</td> </tr> <tr> <td>Assignment /Lab (+Reflective Diary)</td> <td>20%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Active Participation /instructor assessment	80%	Assignment /Lab (+Reflective Diary)	20%		100%
Active Participation /instructor assessment	80%						
Assignment /Lab (+Reflective Diary)	20%						
	100%						
Language	English						

Course Title	Anatomy II				
Course Code	MED201				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 3 rd Semester				
Teacher's Name	Professor Elizabeth O. Johnson Dr. Dimitris Ntourakis Dr. Kostas Tsamis Dr. Neophytos Demetriadis				
ECTS	7	Lectures / week	3 Hours	Laboratories / week	4 Hours
Course Purpose and Objectives	<p>This course aims to familiarize students with the structure of the major systems of the body, and obtain an understanding of the regional anatomy to describe structures and their relationships to each other, through the study of Gross, Surface and Radiological Anatomy. Detailed Gross Anatomy of the human body, including sectional anatomy, anatomical basis of clinical conditions, living anatomy and radiologic anatomy will be presented. Students will address Clinical Correlations of structure and functions of human body and the anatomical basis for clinical presentations. Surface Anatomy will include the study of Important bony landmarks of the body, important vessels and nerves and projection of the outline of heart, its borders, surfaces and valves, lungs, their borders, fissures and hila, pleura, and abdominal and pelvic organs. Radiological Anatomy will include identification of normal anatomical features in commonly used radiographs (plain & contrast), computerized tomography (CT) scans and MRI.</p> <p>The course is designed to integrate a 3-dimensional visualization of structures with function (physiology and biochemistry), microstructure (histology), and development (embryology), and enable students to use that knowledge to solve relevant clinical problems. All lectures, laboratories, group discussions, and clinical problems emphasize integrations of basic science concepts with clinical significance and applications.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate understanding of the normal structure of the human body with emphasis on the anatomical regions: thorax, abdomen and pelvis • Demonstrate effective use of anatomical terminology • Understand the three-dimensional organization of the body, organs and organ systems and how it relates to normal function 				

	<ul style="list-style-type: none"> • Recognize common anatomical variations • Apply anatomical knowledge to interpret two-dimensional radiologic images, such as plain radiographs, CT and MRI scans. • Recognize the anatomy beneath the skin surface, for the purpose of palpating and locating anatomical structures used in clinical practice • Demonstrate skills in problem-solving and critical thinking by relating symptoms to underlying anatomy (via Clinical Problems / Problem Based Learning) • Demonstrate an ability to effectively communicate with peers and present anatomical information (written and oral) clearly and concisely • Demonstrate effective collaborative skills and professionalism by working in peer groups (Team Based Learning) • Demonstrate effective self-assessment skills, time management and integration of knowledge in independent tutorials (Moodle) <p>Laboratory skills</p> <ul style="list-style-type: none"> • Know and locate reliable surface anatomy landmarks to accurately locate and palpate deep structures • Identify organ systems, organs and organ structures using multiple three-dimensional reconstructions from models and computer virtual images • Identify normal anatomical structures, organs and viscera in radiographs, computerized tomography (CT) scan, MRI etc. and correlate with cross sections of the body • Recognize the normal range of variation anatomical structures 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In relations to the following primary Structure & Function (S&F) Modules</p> <ul style="list-style-type: none"> • Respiratory System Module • Cardiovascular Module • Gastrointestinal System Module • Renal System Module • Female Reproductive System Module • Male Reproductive System Module <p>Students will familiarize themselves with:</p> <ul style="list-style-type: none"> • Principal anatomical structures which form the lymphoid and hemopoietic, cardiovascular, respiratory, digestive, endocrine and genital-urinary systems • Organs and supporting structures of the thorax and mediastinum • Organs and supporting structures of the abdomen • Organs and supporting structures s in the retroperitoneal space • Organs and supporting structures of the pelvis • The vascularization, innervation and lymphatic drainage of all organs • Surface landmarks for deep structures and palpation (surface anatomy) • Radiographic anatomy of organ systems 		

	<p>Laboratory Exercises:</p> <ul style="list-style-type: none"> • Observation of organ structure and anatomical relations with high fidelity models • Observation of organ relations from computer-available cross-sections of the human body • Observation of all organ systems and organs on virtual anatomy programs • Identify, palpate and draw (on human subjects) anatomical landmarks to determine underlying organs (surface anatomy) • Identify organ structures on modern imaging modalities (Radiographs, CTs, MRIs) 														
Teaching Methodology	Face- to- Face														
Bibliography	<p>Moore, K.L. and Agur, AMR, Essential Clinical Anatomy. Lippincott, Williams & Wilkins, 7th ed., 2013</p> <p>Rohen, J.W., Lutjen-Drecoll, E., Yokochi, D. Color Atlas of Anatomy. Lippincott, Williams & Wilkins, 7th ed., 2010</p>														
Assessment	<table border="1"> <tr> <td>Midterm <i>(practical 15% & written 15%)</i></td> <td>30%</td> </tr> <tr> <td>Final Practical <i>(spot – station rotation & objective structured practical exam)</i></td> <td>25%</td> </tr> <tr> <td>Final Written <i>(MCQs, Short answer to clinical problems)</i></td> <td>25%</td> </tr> <tr> <td>Viva voce</td> <td>5%</td> </tr> <tr> <td>Clinical problems <i>(team effort)</i></td> <td>5%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td>TOTAL</td> <td>100%</td> </tr> </table>	Midterm <i>(practical 15% & written 15%)</i>	30%	Final Practical <i>(spot – station rotation & objective structured practical exam)</i>	25%	Final Written <i>(MCQs, Short answer to clinical problems)</i>	25%	Viva voce	5%	Clinical problems <i>(team effort)</i>	5%	Class participation	10%	TOTAL	100%
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Final Practical <i>(spot – station rotation & objective structured practical exam)</i>	25%														
Final Written <i>(MCQs, Short answer to clinical problems)</i>	25%														
Viva voce	5%														
Clinical problems <i>(team effort)</i>	5%														
Class participation	10%														
TOTAL	100%														
Language	English														

Course Title	Histology - Embryology II				
Course Code	MED202				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 3 rd Semester				
Teacher's Name	Prof. Elpida-Niki Emmanouil-Nikoloussi				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	3 Hours
Course Purpose and Objectives	<p>This course is aiming to acquaint Medical students to a broad and concrete overview of Histology, i.e. microstructure and Embryology, i.e. evolution of organs and systems with respect to human tissue organization and differentiation in embryological/fetal development. It will familiarize them to the histological microstructure in combination with the structure and function of the human body major organs and systems as: the Respiratory, the Cardiovascular, the Gastrointestinal, the Renal and Urinary System, the Female and the Male Reproductive systems. Teratogenic factors will be analyzed and discussed as structural and functional causative factors inducing types of birth defects to the above described organs and systems , as well as types of their repair and rehabilitation under clinical procedures. Clinical Correlations to microstructure and functions of the human's body above described major organs and their histological basis of clinical presentations related to them will be analyzed. Therefore, Medical students will be acquainted by this course to understand the role of histology and embryology for accurate diagnosis of diseases. Thus, the course is going to serve as a connective foundation upon which, Structure and Function courses as Anatomy-Histology-Embryology-Physiology and Biochemistry in Medical sciences will be based.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate understanding of the normal microstructure and evolution of the human body with emphasis on the major organs located into the thorax, abdomen and pelvis • Demonstrate effective use of histological and embryological terminology • Understand the microstructural organization of the human body and the above described organs and systems. • Illustrate, recognize, identify and describe the normal microstructure and function of the human's body organs in problem-solving and critical thinking by relating pathology of each of its major organs and systems as: the Respiratory, the Cardiovascular, the Gastrointestinal, the Renal and Urinary System, the Female and the Male Reproductive systems 				

	<ul style="list-style-type: none"> • Apply histological and embryological knowledge to interpret 3D high fidelity histological and embryological models for those organs and systems • Describe and predict how alterations of developmental events due to teratogenic factors would cause several types of individually or combination of the organs' and systems described above congenital malformations which can affect the anatomical and physiological function and structure of organs and systems. • Demonstrate skills in problem-solving and critical thinking by clinical cases presentations (via Clinical Problems / Problem Based Learning) • Demonstrate abilities to communicate with peers and to present microstructural organization and information (written, oral and drawings) from the organs and systems described above and present accurate diagnosis of diseases <p>All the above will acquaint Medical students to demonstrate effective self-assessment skills, communicative and collaborative skills, communication with peers, discussions with clinicians and presentation of structural and functional information for human organs and systems as: the Respiratory, the Cardiovascular, the Gastrointestinal, the Renal and Urinary System, the Female and the Male Reproductive systems microstructure, evolution and repair.</p> <p>Laboratory skills</p> <ul style="list-style-type: none"> • Use the optical and electron microscope (Transmission and Scanning Microscope) to identify the different tissue types consisting the Respiratory, the Cardiovascular, the Gastrointestinal, the Renal and Urinary System, the Female and the Male Reproductive systems. • Understand the role of histology and embryology for accurate diagnosis in diverse diseases demonstrating skills in critical thinking via Problem Based Learning and Clinical Discussions. • Describe and identify stages of embryological and fetal differentiation of the Respiratory, the Cardiovascular, the Gastrointestinal, the Renal and Urinary System, the Female and the Male Reproductive systems. • Understand the role of embryology for accurate diagnosis in diverse birth defects demonstrating skills in critical thinking via Problem Based Learning and Clinical Discussions. • Identify Respiratory, Cardiovascular, Gastrointestinal, Renal and Urinary System, Female and Male Reproductive systems microstructure and embryological structure from tissue slides, ultrastructural photographs, 3-D high fidelity models and Computer Assisting Learning-CAL. 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In that regard, students will familiarize themselves with the following Structure and Function (S&F) Modules:</p> <ul style="list-style-type: none"> • Morphological organization and development of the Respiratory system and its disorders. • Morphological organization and development of the Cardiovascular System and its disorders. 		

	<ul style="list-style-type: none"> • Morphological organization and development of the Gastrointestinal System and its disorders. • Morphological organization and development of the Renal and Urinary System and its disorders. • Morphological organization and development of the Female Reproductive System and its disorders. • Morphological organization and development of the Male Reproductive System and its disorders. • Teratogenic Agents and Parental Diseases influencing the Maternal/Embryonic Organism and the formation of the Respiratory, the Cardiovascular, the Gastrointestinal, the Renal and Urinary System, the Female and the Male Reproductive systems. <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observations of tissues and organs from the Respiratory, the Cardiovascular, the Gastrointestinal, the Renal and Urinary System, the Female and the Male Reproductive systems described into this Structure and Function (S&F) Module by light and electron microscopical Computer Assisted Learning-CAL methods. • Observations of normal and pathological embryonic tissues and organs from the systems described into this Structure and Function (S&F) Module by light and electron microscopy. • Morphological organization of the Umbilical Cord, the Placenta and the Embryonic/Fetal Membranes and their disorders. • Observations of tissues and organs from the systems described above into this Structure and Function (S&F) Module under the microscope using histological slides. • Drawing methods for understanding the functional structure of organs and systems described above and observations of various types of high fidelity 3D histological and embryological models • Clinical Seminars and Group Discussions of pathological conditions in comparison with normal conditions from the organs and systems described into this Structure and Function (S&F) Module. • Clinical Seminars and Group Discussions with videos describing birth defects from the systems described into this Structure and Function (S&F) Module. • Observations of various types of adult and embryonic tissues, organs and systems from the above described Modules using light and electronic microscope photographs ,videos and Computer Assisting Learning-CAL.
Teaching Methodology	Face- to- face
Bibliography	<p>Junqueira’s Basic Histology: Text & Atlas; Antony L. Mesher, PhD, Mc Graw Hill Education LANGE, New York, Chicago, San Francisco, Lisbon, London, Madrid, Mexico City, Milan, New Delhi, San Juan, Seoul, Singapore, Sydney, Toronto. International Edition-13th Edition 2013 . ISBN 978-1-259-07232-1, or, MHID 1-259-07232-0</p> <p>Netter's Essential Histology; William Ovalle, Patrick C. Nahirney, Illustrations by Frank H. Netter; Elsevier Saunders Philadelphia, Second Edition, 2013</p>

	<p>ISBN 978-1-4557-0631-0</p> <p>Before we are Born. Essentials of Embryology and Birth Defects. Keith L. Moore, T.V.N. Persaud, Mark G. Torcha. Philadelphia, Elsevier Saunders Edition, 8th Edition 2013, ISBN 978-1-4377-2001-3.</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS: Human Histology; Stevens, A. / Lowe, J.S.; 3rd; 978-0323036634; Mosby; 2004</p> <p>Color Atlas of Histology; Leslie G. Gartner; 978-1451107210; Lippincott Williams and Wilkins; 2010</p> <p>Color Atlas of Cytology, Histology, and Microscopic Anatomy. Wolfgang Kuehnel, Thieme. Stuttgart-New York. ISBN 3-13-562404-8 (GTV), ISBN 1-58890-175-0 (TNY), 4th Edition, 2003</p> <p>Langman's Medical Embryology. T. W. Sadler. Wolters Kluwer Health/Lippincott Williams & Wilkinson, Philadelphia, Baltimore, New York, London, Buenos Aires, Hong Kong, Sydney, Tokyo. 12th Edition-International Edition, 2012. ISBN 978-1-4511-4451-1.</p>												
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination (Practical & Written)</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>10%</td> </tr> <tr> <td>Clinical problems(team effort)</td> <td>10%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination (Practical & Written)	40%	Assignment /Lab	10%	Clinical problems(team effort)	10%	Class participation	10%		100%
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Final Examination (Practical & Written)	40%												
Assignment /Lab	10%												
Clinical problems(team effort)	10%												
Class participation	10%												
	100%												
Language	English												

Course Title	Physiology II				
Course Code	MED203				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd year/ 3 rd semester				
Teacher's Name	Professor Dr. Theodoros Xanthos Dr. Konstantinos Tsioutis Dr. Dimitris Ntourakis				
ECTS	7	Lectures / week	3 hrs	Laboratories / week	4 hrs
Course Purpose and Objectives	The course is intended to provide a broad and extensive function overview of the physiology of the systems of the human body. The course is intended to familiarize students with the physiology of the various systems of the human body, namely respiratory, cardiovascular, gastrointestinal, renal and reproductive systems. The purpose of the course is to explain the physiological basis of systems homeostasis and to introduce basic mechanisms which are deranged in disease. This will allow students to proceed to more advanced medical courses such as pathophysiology and semiology				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Discuss the mechanics of pulmonary ventilation • Describe the effects of thoracic cage to lung expansibility • Discuss and summarize pulmonary volumes and capacities • Describe the various reflexes (sneeze, cough etc) of the respiratory system • Discuss the pulmonary circulation and its derangements (pleural effusion, pulmonary oedema) • Describe the principles of gas exchange through the respiratory membrane • Summarize the transport of oxygen and carbon dioxide in blood and tissue fluids • Summarize the regulation of respiration • Discuss the heart as a pump and the function of the valves • Describe the rhythmical excitation of the heart • Discuss and interpret the normal ECG • Discuss the various arrhythmias and their electrocardiographic interpretation • Describe the biophysics of pressure and resistance • Summarize the microcirculation along with the lymphatic system: Capillary Fluid Exchange, Interstitial Fluid, and Lymph Flow 				

	<ul style="list-style-type: none"> • Discuss the Local and Humoral Control of Tissue Blood Flow • Describe the Nervous Regulation of the Circulation and Rapid Control of Arterial Pressure • Summarize The Integrated System for Arterial Pressure Regulation and the role of the kidneys in the long term regulation of pressure • Discuss the Cardiac Output, Venous Return, and Their Regulation • Describe Muscle Blood Flow and Cardiac Output During Exercise; the Coronary Circulation and Ischemic Heart Disease • Describe the mechanisms of heart failure • Discuss Heart Valves and Heart Sounds • Discuss urine formation by the kidneys • Describe Glomerular Filtration, Renal Blood Flow, and Their Control and Renal Tubular Reabsorption and Secretion • Summarize Urine Concentration and Dilution; Regulation of Extracellular Fluid Osmolarity and Sodium Concentration • Summarize Renal Regulation of Potassium, Calcium, Phosphate, and Magnesium; Integration of Renal Mechanisms for Control of Blood Volume and Extracellular Fluid Volume • Summarize acid base regulation from biochemistry • Describe the general Principles of Gastrointestinal Function • Discuss the Secretory Functions of the Alimentary Tract • Describe the Physiology of Gastrointestinal Disorders • Discuss the Reproductive and Hormonal Functions of the Male • Describe Female Physiology Before Pregnancy and Female Hormones • Discuss the basics of Pregnancy and Lactation <p>Laboratory skills</p> <ul style="list-style-type: none"> • Perform and understand the physiologic principles in simulation scenarios related to the physiology of the major organ systems • Discuss and identify the physiologic processes underlying disease processes in clinical cases of the of the major organ systems 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In that regard, students will familiarize themselves with:</p> <ul style="list-style-type: none"> • The physiology and the basic physiology disorders of the respiratory system • The cardiac muscle, the heart as the pump and the functions of the valves • The creation of the normal and abnormal ECG • Heart failure and its causes (right versus left) • The physiology of the renal system (absorption, re-absorption, secretion of ions) and their basic derangements • Arterial blood gas analysis • The physiology of the alimentary system, mixing absorption and propulsion and their derangement 		

	<ul style="list-style-type: none"> • The physiology of the male and female hormonal system <p>Laboratory Exercises</p> <ul style="list-style-type: none"> • Simulation patients • Clinical Cases 												
Teaching Methodology	Face-to-face												
Bibliography	Guyton and Hall Textbook of Medical Physiology; John E. Hall; 12th; 978-1416045748; Saunders; 2010												
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Clinical Problems</td> <td>10%</td> </tr> <tr> <td>Log books with reflection</td> <td>10%</td> </tr> <tr> <td>Class participation (team effort)</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Clinical Problems	10%	Log books with reflection	10%	Class participation (team effort)	10%		100%
Mid-Term Examination	30%												
Final Examination	40%												
Clinical Problems	10%												
Log books with reflection	10%												
Class participation (team effort)	10%												
	100%												
Language	English												

Course Title	Human Nutrition & Metabolism				
Course Code	MED204				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 3 rd Semester				
Teacher's Name	Ioannis Patrikios				
ECTS	5	Lectures / week	3 hrs	Laboratories / week	3 hrs
Course Purpose and Objectives	<ul style="list-style-type: none"> • The objective of the course is to familiarize the students with the Molecular bioavailability, metabolism, storage and biosynthesis of micro and macro molecules and the regulation of their pathways. • Description of the biochemical basis of inherited disorders with their associated sequelae of various metabolisms. • Description of blood and urine metabolites and their importance in health and disease. 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Analyze laboratory data of routine biochemical investigations by conducting selected special investigations for solving clinical problems. • Demonstrate communication skills and professionalism with a sense of responsibility. • Demonstrate ability to work cooperatively in team • Learn and describe the role of Vitamins, Calculate the energy requirements, overview carbohydrate metabolism and associated disorders • Discuss the mineral metabolism, nutritional importance of carbohydrates, nutritional importance of proteins, nutritional importance of Lipids. • Overview of protein metabolism and associated disorders. • Overview of lipid metabolism and associated disorders. • Overview of nucleotide metabolism and associated disorders. <p>Describe and discuss</p> <ul style="list-style-type: none"> • Diabetes mellitus & its diagnosis • Prostaglandins • Clinical Nutrition • Regulation of blood sugar • Obesity • Diagnostic importance of plasma proteins <ul style="list-style-type: none"> • Vitamin B- Complex • Calcium Homeostasis 				

	<ul style="list-style-type: none"> • Metabolic interrelationships • Calculation of BMR for normal and abnormal individuals <p>Laboratory</p> <ul style="list-style-type: none"> • Estimation of serum cholesterol • Estimation of inorganic phosphate • Estimation of total proteins and albumin • Paper Chromatography • Estimation of Uric acid • Electrophoresis of plasma proteins 		
Prerequisites	None	Co-requisites	None
Course Content	<ul style="list-style-type: none"> • Vitamins (A and D) • Nutritional importance of carbohydrates & dietary fibers • Carbohydrate metabolism (sugars) • Nutritional importance of proteins & PEM • GTT, glycosuria, glycemia, diabetes • Nutritional importance of lipids • Inborn Errors Of Carb Metabolism, Glycogen Storage Disorders • Urea cycle & disorders • Metabolism of lipids and disorders • Amino acids metabolism and disorders • Complex lipid metabolism & disorders • Alkaptonuria, Homocysteinuria & disorders • Disorders of nucleotide metabolism • Nutritional importance of lipids & BMR, LDL, HDL • Diagnostic importance of proteins • Bile acids • Estimation of serum cholesterol • Estimation of inorganic phosphate • Estimation of total proteins and albumin • Paper Chromatography 		
Teaching Methodology	Face-to-face		
Bibliography	<p>Berdanier CD, Zempleni J, <i>Advanced Nutrition: Macronutrients, Micronutrients, and Metabolism</i> (1st Edition), CRC, 2008.</p> <p>Textbook of Biochemistry with Clinical Correlations; Devlin, Thomas M.; 7th; 978-0470281734; John Wiley; 2010</p>		

	<p>Biochemistry: International Edition; Berg, J.M. / Tymoczko, J.L.; 7th; 978-1429276351; W. H. Freeman; 2011</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Study Guide for Chemistry: An Introduction to General, Organic, and Biological Chemistry; Karen C. Timberlake; 11; 978-0697250032; Prentice Hall; 2011 Clinical Biochemistry: Metabolic and Clinical Aspects; Marshall William; 2nd; 978-0443101861; Churchill Livingstone; 2008 Lehninger Principles of Biochemistry; David L. Nelson; 978-1429208925; W. H. Freeman; 2008 Harpers Illustrated Biochemistry; Harper, H./Robert, K. Murray; 29th; 978-0071765763; McGraw-Hill; 2012</p>
Assessment	<p>Midterm Examination: 30%</p> <p>Final Examination: 40%</p> <p>Assignment/Lab/ Class Participation: 30%</p>
Language	English

Course Title	Family Medicine and Public Health				
Course Code	MED 205				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year/ 3 rd Semester				
Teacher's Name	Prof. George Petrikkos Theodora Zachariadou				
ECTS	5	Lectures / week	4 Hours	Laboratories / week	0 hrs
Course Purpose and Objectives	This course is intended to give the student a broad overview of Family Medicine and Public Health. It is designed to acquaint students with the fundamental terms, concepts, values and principles of the discipline of Family Medicine and to open the field of Public health and its complexities.				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Discuss the development of the discipline of Family Medicine/ General Practice and explain the role of General Practitioners/ Family Physicians in the delivery of healthcare services at the Primary Healthcare setting. • Discuss the principles of General Practice/ Family Medicine, and define the values, characteristics and core competencies of the discipline. • Demonstrate competency in elicitation of history, patient communication, physical examination and critical thinking skills. • Discuss the development of Public Health in low, middle and high income countries. • Discuss the determinants of health including physical and social environments, individual behaviors and genetic inheritance and explain the relationship between them. • Develop evidence-based plans for health promotion and disease prevention in specific population groups. • Demonstrate expertise about the primary activities in Public Health: planning, programming and assessment of health programs, prevention and protection from infectious and non- communicable diseases, injuries and accidents. • Develop skills in epidemiological and statistical approaches applied in Public Health and Family Medicine. • Discuss Public Health policies, laws and ethics. 				
Prerequisites	None	Co-requisites	None		

<p>Course Content</p>	<p>In that regard, students will familiarize themselves with:</p> <ul style="list-style-type: none"> • The methods of taking a clinical history through gathering information, formulating differential diagnoses and proposing plans for the initial evaluation of patients with common conditions. • The levels of disease prevention (primary, secondary, tertiary) both for communicable and non-communicable diseases (i.e. breast cancer, cervical cancer, colon cancer, coronary artery disease, type 2 diabetes, sexually transmitted infections). • The particularities of child, adolescent and maternal care and geriatric care. • The determinants of health and disease as well as the socioeconomic inequalities in health in low, middle and high income countries. • Health in the work place, prevention and management of occupational and environmental injury, illness, and disability. • The basic principles of epidemiology in relation to Public Health and the methodology in designing population studies. • The approaches used for the development of health promotion/ disease prevention plans for patients at any age or gender. • Prevention and control of public health hazards (smoking, obesity, alcohol abuse, illicit drug use). • Ethical principles, leadership and health policy in Public Health. • The organization, functions and management of health care systems and the impact of health care in improving the health of populations.
<p>Teaching Methodology</p>	<p>Face to face</p>
<p>Bibliography</p>	<p>Essentials of Family Medicine, Sixth edition. Philip Sloane, Lisa Slatt, Mark Ebell, Mindy Smith, David Power & Antony Viera Eds; Lippincott Williams and Wilkins, 2012.</p> <p>Introduction to Public Health: Promises and practices, Second edition. Raymond J. Goldsteen, Karen Goldsteen, Terry L. Dwelle. Springer, New York, 2015.</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS: John Murtagh's General Practice. McGraw-Hill Australia; 6th Revised edition edition (July 10, 2015).</p> <p>Family Medicine Pre Test self- assessment and review. Third Edition, Dough Knutson. McGraw-Hill, 2012.</p>

	Oxford textbook of global Public Health, Sixth Edition. Eds, Roger Detels, Martin Gulliford, Quarraisha Abdool Karim, and Chorh Chuan Tan. Oxford university Press, 2015.		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Assignment	20%	
	Class participation	10%	
		100%	
Language	English		

Course Title	Neuroscience				
Course Code	MED206				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 4 th Semester				
Teacher's Name	Professor Elizabeth O. Johnson Professor Elpida-Niki Nikoloussi Professor Theodoros Xanthos Dr. Kostas Tsamis				
ECTS	7	Lectures / week	4 Hours	Laboratories / week	4 Hours
Course Purpose and Objectives	<p>Neuroscience is an integrated course that aims to familiarize students with the basic concepts about the organization, structure and function of the human central nervous system and the sensory organs, which emphasizes the multidisciplinary study of the central nervous system through the study of Gross and Radiological Anatomy, Histology, Embryology and Neurophysiology. Detailed Gross Anatomy of the human body, including sectional anatomy, anatomical basis of clinical conditions, and radiologic anatomy will be presented. Students will address Clinical Correlations of structure and functions of human body and the anatomical and developmental basis for clinical presentations. Radiological Anatomy will include identification of normal anatomical features in commonly used radiographs (plain & contrast), computerized tomography (CT) scans and MRI. The aim is to enable students to apply these fundamental principles toward understanding nervous system function and dysfunction, toward clinical problem-solving in relation to disorders that affect the nervous system and to provide the necessary foundation in neuroscience upon which students can build for the rest of the training.</p> <p>The course is designed to integrate a 3-dimensional visualization of structures (anatomy) with function (physiology) and microstructure (histology) and development (embryology), and enable students to use that knowledge to solve clinical problems. All lectures, laboratories, group discussions, and clinical problems emphasize the integration of basic science concepts with clinical significance and applications.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate a broad foundation in the concepts and methodologies of the interdisciplinary field of neuroscience at the cellular, molecular, gross, cognitive, systems and behavioural levels. 				

- Explain the cellular and molecular basis for excitability, conductivity, synaptic function and plasticity of the nervous system
- Identify and describe the major features of the brain that are identifiable on gross inspection and in coronal, axial and sagittal section
- Identify the organization of the major blood vessels of the brain and describe the regulation of blood flow and the transit of nutrients to the brain, including the blood brain barrier
- Describe the general concepts in the development of the nervous system and consequences of disruption of these processes
- Explain the formation and flow of cerebrospinal fluid
- Describe the major tracts of the brain and identify the functions and consequences of damage to the tracts
- Describe the major components of the sensory systems and predict the consequences of damage to these systems
- Describe the major components of the motors systems and predict the consequences of damage to these systems
- Describe the substrates for the major behavioural and cognitive functions of the brain and predict consequences of damage to these systems
- Describe the control of integrated functions of the brain, including neuroendocrine function, autonomic control, emotional regulation, appetite and sleep
- Understand the tools of study of the structure and function of the brain, including neurophysiological and neuroimaging
- Relate the anatomy and development of the nervous system to clinical syndromes and diseases
- Apply anatomical knowledge to interpret two-dimensional radiologic images, such as CT and MRI scans.
- Practice and demonstrate skills in problem-solving and critical thinking by relating symptoms to underlying anatomy
- Demonstrate an ability to effectively communicate with peers and present information related to the structure and function of the nervous system (written and oral) clearly and concisely
- Practice and demonstrate team skills, including respectful, responsible and professional participation
- Take responsibility for his- or her-own medical education and accept responsibility for his/her own actions
- Search efficiently for and obtain recent, high quality, relevant medical information and scientific literature to solve problems
- Practice and demonstrate the ability to read critically, evaluate and assess medical information and scientific literature
- Practice and demonstrate effective contributions and constructive dialogue during reflection

Laboratory skills

- Recognize surface and deep structures of the brain and spinal cord.
- Recognize sensory and motor pathways and functional manifestations
- Recognize microstructure and developmental stages of the nervous system

	<ul style="list-style-type: none"> • Identify normal anatomical structures of the central nervous system on computerized tomography (CT) scan, MRI etc. and correlate with cross sections of the body • Apply virtual lab methods and recognize normal neuroanatomy, neural signaling, neural development, sensory function, motor function and cognition. • Recognize and perform neurologic assessment of normal functions of cranial nerves 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In relations to the following primary Structure & Function Neuroscience Modules (which address anatomy, histology, embryology & physiology),</p> <ul style="list-style-type: none"> • Cellular / Molecular Units (Neurons, Glia & Synapses) • Cerebrum • Deep Cerebral Structures • Brainstem and Cerebellum • Spinal Cord • Motor Pathways • Sensory Pathways • Cranial Nerves • Sensory Organs • Autonomic System • Structures of Support • Brain Vascularization <p>Students will familiarize themselves with:</p> <ul style="list-style-type: none"> • Describe and identify the major gross anatomical components of the nervous system and the sensory organs. • Relate the embryological development of the central nervous system to the adult brain and spinal cord • Describe the functions of the neural synapse • Understand the physiology of nerve cells and the principles of electrochemical excitability • Describe and identify the structural components and functional significance of the meninges, cerebral spinal fluid, blood supply, and blood-brain & blood-CSF barriers. • Describe the relationship of the structure of the nervous system to its functions: movement, sensory system, basic functions of a living organism • Describe the general structural and functional organization of different hierarchical levels of the CNS: spinal cord and brainstem segments (eg spinal & cranial nerves, reflexes, neuromuscular junction); relay and processing sites on route of ascending and descending pathways. • Recognize the fundamental of the nerve cell, synapse and synaptic functions • Describe and identify the major nuclei of the thalamus and their roles in sensory, motor and cognitive functions • Describe the anatomy and functions of the major components of the basal ganglia 		

	<ul style="list-style-type: none"> • Describe and identify the major components of the limbic system, the basal forebrain and their relationships with parts of the brain • Describe localization of cortical functions related to motor and sensory functions, special senses and higher cognitive functions and behaviors • Describe and identify the structure, function, development and pathways of the sensory organs: vision, hearing, ventricular system and balance function, smell, taste • Understand motor and sensory systems and pathways, spinal circuits and motor coordination, motor system of • Understand the structure and functions of the cranial nerves. • Describe and identify the structure and functions of the autonomic nervous system • Understand the principles of cerebral blood flow and cerebral metabolism <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observation of gross structures of the brain on high fidelity models • Observation of histological structure of the brain on microscopes • Observation of gross structures of the brain on virtual anatomy programs and in cross-section • Observation of histology of the brain on virtual histology programs and microscopes • Observation of ultrastructure of neural components on micrographs • Identify structures of the brain on modern imaging modalities (CTs, MRIs) • Perform basic neurological examination • Electrodiagnostic testing and assessment of neurophysiologic studies on neural excitability via electromyography • Electrodiagnostic testing and assessment of neurophysiologic studies on electroencephalography and event-related potentials (ERPs)
Teaching Methodology	Face- to- Face
Bibliography	<p>Clinical Neuroanatomy; Snell Richard; 7th; 978-0781794275; Lippincott Williams and Wilkins; 2009</p> <p>Neuroanatomy: An Illustrated Colour Text; Alan R. Crossman / David Neary ; 4th; 978-0702030864; Churchill Livingstone; 2010</p> <p>Blumenfeld, Neuroanatomy Through Clinical Cases (Paperback), Sinauer Associates; 2nd edition (2010)</p> <p>Junqueira’s Basic Histology: Text & Atlas; Antony L. Mesher, Phd, Mc Graw Hill Education Lange, Edition-13th Edition 2013 .</p>

	<p>The Developing Human: Clinically Oriented Embryology, 10e 10th Edition By: Keith L. Moore, 2016, 10th Edition-International Edition, Elsevier Carpenter R, Reddi B, Neurophysiology: A conceptual approach, 5th edition, Hodder, Arnold, 2013</p> <p><u>Other suggested textbooks:</u></p> <p>Haines, Neuroanatomy: An Atlas of Structures, Sections and Systems, 7 ed. Ed. Lippincott William and Wilkins, 2007.</p> <p>Nolte, The Human Brain: An Introduction to its Functional Anatomy, 6th Edition, (2009)</p> <p>Ten Donkelaar H, Lammens M, Hori A. Clinical Neuroembryology: Development and developmental disorders of the human central nervous system. Springer, 2014</p>														
<p>Assessment</p>	<table border="1"> <tr> <td> <p>Midterm <i>(practical 15% & written 15%)</i></p> </td> <td> <p>30%</p> </td> </tr> <tr> <td> <p>Final Practical <i>(spot – station rotation & objective structured practical exam)</i></p> </td> <td> <p>25%</p> </td> </tr> <tr> <td> <p>Final Written <i>(MCQs, Short answer to clinical problems)</i></p> </td> <td> <p>25%</p> </td> </tr> <tr> <td> <p>Viva voce</p> </td> <td> <p>5%</p> </td> </tr> <tr> <td> <p>Clinical problems <i>(team effort)</i></p> </td> <td> <p>5%</p> </td> </tr> <tr> <td> <p>Class participation</p> </td> <td> <p>10%</p> </td> </tr> <tr> <td> <p>TOTAL</p> </td> <td> <p>100%</p> </td> </tr> </table>	<p>Midterm <i>(practical 15% & written 15%)</i></p>	<p>30%</p>	<p>Final Practical <i>(spot – station rotation & objective structured practical exam)</i></p>	<p>25%</p>	<p>Final Written <i>(MCQs, Short answer to clinical problems)</i></p>	<p>25%</p>	<p>Viva voce</p>	<p>5%</p>	<p>Clinical problems <i>(team effort)</i></p>	<p>5%</p>	<p>Class participation</p>	<p>10%</p>	<p>TOTAL</p>	<p>100%</p>
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<p>Class participation</p>	<p>10%</p>														
<p>TOTAL</p>	<p>100%</p>														
<p>Language</p>	<p>English</p>														

Course Title	Medical Psychology				
Course Code	MED207				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 4 th Semester				
Teacher's Name	Nuno Ferreira				
ECTS	5	Lectures / week	3 hrs	Laboratories / week	0 hrs
Course Purpose and Objectives	<p>Objective:</p> <p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The basis of normal human behaviour and its changes. • The techniques of doctor – patient communication in health and disease 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Discuss the biological, psychological and social foundations of the human personality and behavior. • Explain the characteristics of the individual throughout his lifespan. • Analyze the basic psychological processes that influence the behaviour of the individual. • Discuss the psychosocial basis of the processes of becoming ill. • Discuss the interactions of the person with his family, social and working group. • Identify the psychological reactions faced with in various situations of illness and death. • Demonstrate that they have acquired the skills to apply the basics of sound, effective and efficient interpersonal communication in the relationship with the patients, their families and with other professionals. • Discuss the principles of the various models of psychotherapy. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>Description:</p> <ul style="list-style-type: none"> • Biological, psychological and social foundations of the personality and behaviour of the individual. 				

	<ul style="list-style-type: none"> • Development of the personality during the entire life span of the individual. • Fundamental aspects of the normal psychic functions. • Psychosocial basis of the process of becoming ill. • Psychological reactions in situations of illness and death. • Principles of interpersonal communication. • Basis of the principles of psychotherapies. 										
Teaching Methodology	Face-to-face										
Bibliography	Medical Psychology; Frederic P. Miller, Agnes F. Vandome and John McBrewster; 978-6130658205; Alphascript Publishing; 2010 Psychology and Sociology Applied to Medicine; eth Alder, Charles S. Abraham, Edwin van Teijlingen , Michael Porter; 3rd; 978-0443067877; Churchill Livingstone; 2009										
Assessment	<table> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td></td> </tr> <tr> <td>Class Participation</td> <td>30%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab		Class Participation	30%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment /Lab											
Class Participation	30%										
	100%										
Language	English										

Course Title	Basic Immunology & Microbiology				
Course Code	MED208				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 4 th Semester				
Teacher's Name	Georgios Petrikkos , Maria Alexandrou , Mary Eleftheriadou , Anastasios Stefanou , Ioannis Patrikios ,Elena Solomou				
ECTS	7	Lectures / week	4 hrs	Laboratories / week	3 hrs
Course Purpose and Objectives	<p>The purpose and objectives of this course is the provision of general and fundamental knowledge in basic microbiology and immunology principles to medical students so as to prepare them for the more advanced Medical Microbiology, infectious and autoimmune diseases. In more detail, to familiarize students with the multiple roles, the structure, nutritional/environmental requirements and taxonomy of bacterial, fungal, viral and parasitic agents, their replication/growth, and virulence and how this leads to the disease. The course should also provide knowledge about physical and chemical methods of control, and basic laboratory methods of isolation and identification of the main pathogens.</p> <p>In immunology, basic topics will be covered such as the description of cells and organs of the immune system; the innate immune system including humoral mechanisms: cytokines & complement; an overview of the adaptive immune system including antigen processing & presentation; the activation and regulation of innate and adaptive immunity including cellular mechanisms & receptor, immunization principles and defense mechanisms of the human host. Hypersensitivity and autoimmunity reactions will be explained, including tumor immunology and immunodeficiency. The course will cover also the subject of vaccination and the and new types of vaccines. The lab covers basic microbiology techniques of cultures, stains isolation and identification of the most common pathogens.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Discuss the fundamentals and history of Microbiology and Immunology • Describe the general characteristics, structure, and taxonomic classification of each category of microorganisms: Bacteria, Viruses, Fungi and Parasites. Prokaryotes vs Eukaryotes, Spores, Prions and the differences between them. • Describe the basic nutritional and environmental requirements for growth and multiplication of all classes of microorganisms • Describe how the virulence of these organisms leads to human disease; and how humans try to prevent or treat these diseases. 				

	<ul style="list-style-type: none"> • Describe and apply the various physical and chemical methods for the control of microorganisms (disinfection and sterilization) • Know the basic components of the immune system • Understand its function in health and disease (immune deficiencies, immunity and infection, autoimmunity, hypersensitivity disease, tumor immunology, transplantation, immunotherapy) • Outline the principles of vaccinations and the mechanism of protection from infection • Describe the various tests and laboratory techniques used in clinical diagnostics • Demonstrate skills for basic culture techniques in the laboratory and the expertise to stain and use the optical microscope for microbiological diagnosis. • Explain the tests used by microbiologists to isolate and identify the main pathogens of bacteria and fungi. 		
Prerequisites	None	Co-requisites	None
Course Content	<p>Description:</p> <ul style="list-style-type: none"> • Fundamentals of microbiology and Immunology, a historical perspective • General characteristics of microorganisms. Their role in life on planet earth • Microbial structure and taxonomy: Bacteria, Fungi, Parasites, Viruses, Prions • Microbial Nutritional Requirements, growth and multiplication • Physical and Chemical methods for the Control of microorganisms Microbiological basis of the clinical use of antimicrobials. • Disinfection, Sterilization and Antisepsis • Microbial genetics • Techniques for microbiological, immunological, parasitological and serological diagnosis and interpretation of results. • The innate immune system including humoral mechanisms: cytokines & complement • An overview of the adaptive immune system including antigen processing & presentation & antibody diversity. • The activation and regulation of innate and adaptive immunity including cellular mechanisms & receptors • Cell co-operation and effectors' mechanisms including immune evasion and principles governing vaccination • Antibody structure and interaction with antigens; The molecular basis of antigen specificity ; • Self/non-self-discrimination and disorders of the immune system; • Immunization principles and defense against infectious diseases; Vaccinations 		

Teaching Methodology	Face-to-face										
Bibliography	<p>Microbiology: An Introduction; Tortora, Gerald; Funke, Case 12th ed; 978-0321798541; Pearson; 2012</p> <p>Brock, Biology of Microorganisms, 14th ed. Madigan, Martinko, Bender, Buckley, Stahl, Brock. ISBN-10 032189739</p> <p>Basic Immunology Updated Edition: Functions and Disorders of the Immune System . Abu K. Abbas MBBS , Andrew H. H. Lichtman ; With STUDENT CONSULT Online Access, 4e (Basic Immunology: Functions and Disorders of the Immune System) Saunders; 4edition (February 12, 2010). ISBN-10: 141605569X, ISBN-13: 978-1416055693.</p> <p>Immunology. Thao Doan, Roger Melvold , Susan Viselli, Carl Waltenbaugh 2nd Edition. : Wolters Kluwer- Lippincott Williams and Wilkins,2013, ISBN 987654321</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS: Basic Practical Microbiology. A Manual .Society for General Microbiology (SGM) ,ISBN 0 95368 383 4, 2006</p> <p>Microbiology and Immunology (Board Review Series) Louise Hawley et al . Sixth Edition : Wolters Kluwer-Lippincott Williams and Wilkins,2014</p> <p>USMLE Step 1, Immunology and Microbiology Lecture notes. Kim Moscatello et al .Kaplan Inc 2013</p>										
Assessment	<table> <tr> <td>Midterm Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Lab/Case study Assignments</td> <td>20%</td> </tr> <tr> <td>Class/Lab Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Midterm Examination	30%	Final Examination	40%	Lab/Case study Assignments	20%	Class/Lab Participation	10%		100%
Midterm Examination	30%										
Final Examination	40%										
Lab/Case study Assignments	20%										
Class/Lab Participation	10%										
	100%										
Language	English										

Course Title	Introduction to Clinical Skills				
Course Code	MED209				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 4 th Semester				
Teacher's Name	Prof. Theodoros Xanthos Ass. Professor Georgios Pantelas				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	4 Hours
Course Purpose and Objectives	<p>Course Purpose:</p> <p>The course purpose is to document and explain how to talk with patient, take the history from a patient, examine a patient, formulate the findings into differential diagnoses and rank these in order of probability.</p> <p>Objective:</p> <p>The objective of the course is to familiarize students with the methods of taking a clinical history containing all relevant information, carrying out a physical examination and a mental function assessment of patients and drawing up an initial diagnostic judgment</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate that they have acquired the expertise to obtain a full past medical history (anamnesis), focusing on the patient and geared towards the diverse clinical syndromes suggested by the anamnesis and to also demonstrate that they are able to interpret its meaning. • Demonstrate that they have acquired the expertise to carry out a physical examination in an orderly fashion by tracts and by systems, as well as a psychopathological assessment and to demonstrate that they are capable to interpret its findings 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>Description:</p> <p>Previous medical history (anamnesis)</p> <p>Physical examination</p>				

	<p>The appearance of the patient and examining the skin</p> <p>Examining the chest and auscultation</p> <p>Measuring pulse, blood pressure, temperature</p> <p>Examining the abdomen</p> <p>Examining the limbs and the neuro-motor system</p> <p>Introduction to complementary examinations</p> <p>Laboratory and radiological examinations</p>										
Teaching Methodology	Face to Face										
Bibliography	<p><u>Macleod's Clinical Examination</u>; Douglas, Graham; 13th; 978-0443068485; Churchill Livingstone; 2014</p> <p>Bates' Guide to Physical Examination and History Taking; <u>Lynn S. Bickley</u>; 10th; 978-1605474007; Lippincott Williams and Wilkins; 2008</p> <p>Davidson's Principles and Practice of Medicine; Boon, N. / Colledge, B./ Walker, J.; 19th; 978-0443070358; Churchill Livingstone; 2002</p> <p>Current Medical Diagnosis and Treatment 2012; Mcphee, S.J. / Papadakis, M.A.; 51st; 978-0071763721; McGraw-Hill; 2011</p> <p>Evidence-based Medicine: How to Practice and Teach it: How to Practice and Teach it. (Includes CD-ROM); Sharon E. Straus, Paul P. Glasziou, W. Scott Richardson and R.Brian Haynes; 4th; 978-0702031274; Churchill Livingstone; 2010</p>										
Assessment	<table border="1"> <tr> <td>Midterm Exam</td> <td>30</td> </tr> <tr> <td>Final Examination</td> <td>40</td> </tr> <tr> <td>Assignment /Lab</td> <td>20</td> </tr> <tr> <td>Class Participation</td> <td>10</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Midterm Exam	30	Final Examination	40	Assignment /Lab	20	Class Participation	10		100%
Midterm Exam	30										
Final Examination	40										
Assignment /Lab	20										
Class Participation	10										
	100%										
Language	English										

Course Title	Pathophysiology I				
Course Code	MED301				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd year/1 st semester				
Teacher's Name	Professor Theodoros Xanthos Dr. Konstantinos Tsioutis				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	3 hrs
Course Purpose and Objectives	<p>The course is intended to familiarize the students with the basic pathophysiological derangements leading to different symptoms and signs. The objective of this course is to enhance the students' knowledge regarding the detailed pathophysiological mechanisms of disease. The course aims at allowing students to progress to more advanced medical courses such as Internal Medicine and the various medical specialties. The objective of the course is to familiarize students with</p> <p style="padding-left: 40px;">The pathogenesis of diseases of the different bodily systems, with consideration of possible mechanisms and underlying metabolic derangements, and their manifestation of</p> <ul style="list-style-type: none"> ○ Clinical Immunology ○ Rheumatology ○ Hematological diseases ○ Gastrointestinal diseases-liver, biliary tract and pancreatic diseases 				
Learning Outcomes	<p>Upon successful completion of the course the students will be able to</p> <ul style="list-style-type: none"> • Discuss the cells molecules and substances involved in immune responses • Discuss the Human Major Histocompatibility Complex • Describe the pathophysiology of clinical immunodeficiency • Discuss Type I hypersensitivity and allergic reactions • Summarize all major pathophysiological pathways in autoimmune disease • Discuss the pathophysiology of anaemia (micorcytic, normocytic, macrocytic, aplastic, hameatolytic) • Describe the pathophysiology of myeloproliferative disorders • Describe the pathophysiology of the spleen and its involvement in heamatological disorders • Summarize blood groups and discuss blood transfusion • Describe the functions and derangements of the white blood cells • Discuss the pathophysiology of bleeding disorders • Summarize the pathophysiology of platelet disorders 				

	<ul style="list-style-type: none"> • Describe inherited coagulation disorders • Discuss the pathophysiology of acquired coagulation disorders • Summarize the pathophysiology of arterial and venous thrombosis • Describe the pathophysiology of common regional musculoskeletal problems • Summarize the pathophysiology of osteoarthritis (rheumatoid, spondyloarthritis, etc) • Describe the pathophysiology of infections of joints and bones • Discuss the pathophysiology of autoimmune rheumatic diseases and other miscellaneous arthropathies • Describe osteoporosis and osteopenia, ricket's disease and osteomalacia • Describe Paget's disease • Summarize Skeletal dysplasias • Describe the most common diseases of the mouth and the salivary glands • Describe the pathophysiology of the most common diseases of the pharynx and the esophagus • Discuss the pathophysiology of the diseases of the stomach and the duodenum • Describe mal-absorption syndromes • Summarize the pathophysiologies of inflammatory bowel disease • Describe the different pathophysiologies of the most common diseases of the colon and rectum • Describe the pathophysiologies of liver disease • Summarize the pathophysiology of gallbladder disorders • Summarize the pathophysiology pancreatic diseases 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In this regard the students will be familiar with the pathophysiology of:</p> <ul style="list-style-type: none"> ○ Clinical Immunology ○ Rheumatology ○ Hematological diseases ○ Gastrointestinal diseases-liver, biliary tract and pancreatic diseases 		
Teaching Methodology	Face-to-face		
Bibliography	<p>Pathophysiology of Disease: An Introduction to Clinical Medicine 7/E by Gary D. Hammer; Stephen J. McPhee</p> <p>100 Case Studies in Pathophysiology by Harold J Bruyere, Jr. και Pathophysiology : A Clinical Approach By Carie A. Braun , By Cindy M. Anderson</p>		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Clinical Problems	10%	

	Log books with reflection	10%	
	Class participation (team effort)	10%	
		100%	
Language	English		

Course Title	Pathology I				
Course Code	MED302				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd Year / 5 th Semester				
Teacher's Name	Ilias Nikas				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	3 Hours
Course Purpose and Objectives	<p>This course is intended to familiarize students with Pathology, also its broad applications and clinical significance. It is designed to acquaint students with the study of Disease in multiple levels -e.g. molecular, etiologic, pathogenetic, morphologic, prognostic- and connect this knowledge with the other Disease courses of the medical curriculum that run in parallel (Pathophysiology I, Semiology I, and Pharmacology I). The purpose of this course is to serve as a bridge between basic science and clinical practice and use Pathology as a means to understand Disease.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate an understanding of the language used to communicate in Pathology • Describe the necessary steps to obtain and process a clinical specimen for histologic examination (gross examination, tissue preparation, staining, microscopic evaluation, frozen section technique) • Describe the main ancillary techniques used in Molecular Pathology e.g. Immunohistochemistry, PCR, Sequencing, Fluorescence in situ Hybridization (FISH) • Explain how the new discoveries in Genomics/Proteomics affect the modern practice of Pathology and Personalized Medicine • Understand the role of Cytopathology in modern patient care • Analyze abnormal tissue patterns connected to Disease and compare them to normal Histology • Define Disease in the molecular and structural level; connect Disease in these levels with subsequent abnormal function and interpret corresponding clinical manifestations including signs, symptoms, and complications • Determine the prognosis and treatment of specific Diseases • Describe the main ways cells adapt to environmental stress: Hypertrophy, Hyperplasia, Atrophy, and Metaplasia • Describe Cell Injury from hypoxia, chemicals, and free radicals 				

- Describe and compare the two types of Cell Death: Necrosis and Apoptosis
- Identify the different Cellular Accumulations and their causes
- Define Amyloidosis, its causes and consequences
- Describe the pathogenetic processes of Acute Inflammation, Chronic Inflammation, and Tissue Repair; also contrast their morphologic differences
- Understand the basic principles of Neoplasia, its Classification and Nomenclature, its Epidemiology, and the value of Cancer Screening; explain the mechanisms of Carcinogenesis and apply Grading and Staging to assess prognosis of malignant tumors
- Define different reactive and neoplastic processes involving the Lymph Nodes and describe Plasma Cell Disorders
- Describe Diseases involving the Female Genital System (Vulva, Vagina, Uterine Cervix, Endometrium, Myometrium, Ovaries) and the Breast; combine morphologic with clinical information; outline the importance of prognostic and predictive factors involving Breast Cancer; assess multiple parameters to guide treatment for Breast Cancer patients
- Describe Diseases involving the Male Genital System (Penis, Testicles, Prostate); combine morphologic with clinical information; evaluate the importance of Screening and Grading in Prostate Cancer
- Describe Diseases involving the Gastrointestinal Tract (Oral Cavity, Salivary Glands, Esophagus, Stomach, Small Intestine, Appendix, Colon); integrate morphologic and clinical knowledge; explain the importance of Grading and Staging in Colon Cancer; determine the most appropriate treatment plan for each entity
- Outline some selected Diseases of the Liver, Gallbladder and Exocrine Pancreas; connect morphologic alterations to clinical presentations

Laboratory skills

- Recognize abnormal tissue patterns accompanying various Diseases and compare them to normal Histology
- Integrate gross and microscopic pictures of various Diseases with corresponding loss of function, which reflects to signs, symptoms, and complications; evaluate prognosis and choose appropriate treatment
- Generate diagnoses by combining clinical information with morphologic interpretation
- Explain signs/symptoms and/or complications by using a known tissue morphology
- Propose the tissue morphology given a known clinical picture
- Develop problem-solving skills and critical thinking ability via clinical cases
- Identify and describe Cell Adaptations and Death under the microscope

	<ul style="list-style-type: none"> • Identify the cells involved in Acute and Chronic Inflammation • Identify and describe the histologic hallmarks of malignancy • Identify and describe selected Diseases involving the Lymph Nodes, Female and Male Genital Tract, Breast, Gastrointestinal Tract, Liver, Gallbladder, and Pancreas 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In that regard, students will familiarize themselves with the Pathology of:</p> <ul style="list-style-type: none"> • Cellular reaction to Injury (Adaptations, Cellular Injury and Death) • Cellular Accumulations and Amyloidosis • Inflammation (Acute and Chronic) and Tissue Repair • Basic Principles of Neoplasia • Non-neoplastic and Neoplastic Lymphoid Proliferations and Plasma Cell Disorders • Female Reproductive System and Breast • Male Reproductive System • Gastrointestinal Tract • Liver, Gallbladder and Exocrine Pancreas <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observation of Cell Death (Necrosis, Apoptosis) under the light/virtual microscope • Observation of alterations in cells and tissues involving different Diseases under the light/virtual microscope • Clinical problems highlighting pathologic-clinical correlation and integrating basic science • Pathology reports and the way to interpret them in the clinical practice setting • Journal clubs and review of current medical literature related to Pathology 		
Teaching Methodology	Face- to- face		
Bibliography	<p>BRS Pathology (Board Review Series); Arthur S. Schneider MD and Philip A. Szanto MD; 5th Edition; 978-1451115871; LWW; 2013</p> <p>Additional Recommended Textbook:</p> <p>Robbins Basic Pathology; Vinay Kumar, MBBS, MD, FRCPath, Abul K. Abbas MBBS, Jon C. Aster MD, PhD; 9th Edition; 978-1437717815; Saunders; 2012</p>		

Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>20%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab	20%	Class participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment /Lab	20%										
Class participation	10%										
	100%										
Language	English										

Course Title	Pharmacology I				
Course Code	MED303				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd year / 5 th semester				
Teacher's Name	Professor Theodoros Xanthos Alexia Polissidis				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	3 hrs
Course Purpose and Objectives	<p>The course is intended to familiarize the students with the basic pharmacological concepts and provide the basic pharmacology of specific systems. The objective of this course is to enhance the students' knowledge regarding the detailed pharmacological agents needed to treat disease. The course aims at allowing students to progress to more advanced medical courses such as Internal Medicine and the various medical specialties. The objective of the course is to familiarize students with</p> <p style="padding-left: 40px;">The pharmacology of the different bodily systems, along with general principles of pharmacology</p> <ul style="list-style-type: none"> ○ Clinical Immunology ○ Rheumatology ○ Hematological diseases ○ Gastrointestinal diseases-liver, biliary tract and pancreatic diseases 				
Learning Outcomes	<p>Upon successful completion of the course the students will be able to</p> <ul style="list-style-type: none"> • Discuss Pharmacokinetics • Discuss Drug receptor interactions and Pharmacodynamics • Discuss agonists and antagonists of the nervous system (cholinergic and adrenergic) • Summarize drugs used in Neurodegenerative diseases • Discuss Anxiolytic and hypnotic drugs and CNS stimulants • Describe Anesthetics, Antidepressants and Antipsychotic drugs • opioids • Summarize Gastrointestinal and antiemetic drugs (Antimicrobial drugs, Histamine H2 receptor antagonists, Proton pump inhibitors, Prostaglandins, Antacids, Antiemetics, Antidiarrhoeal agents) • Discuss Drugs for chronic bowel disease • Describe Drugs that increase motility of GI tract 				

	<ul style="list-style-type: none"> • Describe the Anti-inflammatory drugs (Non-steroidal anti-inflammatory drugs, COX-2 inhibitors, Antirheumatoid drugs Drugs used in gout) • Discuss Anticancer drugs (Antimetabolites, Cytotoxic antibiotics, Alkylating agents and related compounds, Hormones and hormone antagonists, etc) • Describe Principles of antimicrobial therapy (Cell wall inhibitors, Protein synthesis inhibitors, Quinolones, folic acid anagonists, and urinary tract antiseptics, Antimycobacterials, Antiviral drugs, Respiratory system, HIV, HHV-1, HHV-2, HHV-5, etc) 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In this regard the students will be familiar with the general principles of pharmacology along with the system pharmacology of:</p> <ul style="list-style-type: none"> ○ Nervous System ○ Cancer ○ Clinical Immunology and microbiology ○ Rheumatology ○ Hematological diseases ○ Gastrointestinal diseases-liver, biliary tract and pancreatic diseases 		
Teaching Methodology	Face-to-face		
Bibliography	Pharmacology, Richard Harvey, 5th Edition, Lippincott's Illustrated Reviews		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Clinical Problems	10%	
	Log books with reflection	10%	
	Class participation (team effort)	10%	
		100%	
Language	English		

Course Title	Semiology I				
Course Code	MED304				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd Year / 5 th Semester				
Teacher's Name	Theodoros Xanthos, Constantinos Tsioutis				
ECTS	6	Lectures / week	3 hours	Laboratories / week	3 hours
Course Purpose and Objectives	<p>The course is intended to familiarize students with the basic components of history taking and physical examination and to help them identify normal clinical findings, as well as common signs and symptoms of Rheumatology / Clinical Immunology, Hematology, Gastreenterology (including liver, biliary tract and pancreatic diseases), Skin and Reproductive system.</p> <p>In addition, the course aims to help students develop communicating skills with their patients and their environment.</p> <p>Students will learn to apply all necessary steps leading to a complete patient history, to the development of a medical report and to the diagnostic approach of a patient.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Perform complete physical examination and recognize the main symptoms and signs of common diseases. • Use acquired knowledge and skills to interpret the findings of physical examination in different disorders (Rheumatology / Clinical Immunology, Hematology, Gastreenterology, and Skin) and provide an initial patient overview. • Demonstrate the competence to construct an initial diagnostic judgment and plan a diagnostic strategy. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>The course aims for students to:</p> <ul style="list-style-type: none"> • Develop certain practices that will provide students with the ability to effectively manage patients during clinical training. • Further their theoretical expertise on the clinical presentation of the most common disorders of Rheumatology / Clinical Immunology, Hematology, Gastreenterology (including liver, biliary tract and pancreatic diseases), Skin. 				

	<ul style="list-style-type: none"> • To practice on interview methods and behavioural techniques during medical history taking and physical examination and ranking of patients' problems. • To perform complete physical examination and learn to recognize the main symptoms and signs of common diseases of Rheumatology / Clinical Immunology, Hematology, Gastroenterology, Skin and Reproductive system. • To practice on oral case presentations. <p>In particular, students will be familiarized with the following signs and symptoms:</p> <p>Rheumatology: history, specific symptoms, physical examination of joints (inflammation, limitation of movements, stiffness, deforming arthritis), muscle strength, involuntary movements, myalgia, myositis, laboratory investigation (immunology, imaging, paracentesis, joint fluid examination), patient investigation within the context of systemic diseases (vasculitides, systemic collagen diseases).</p> <p>Hematology: symptoms and signs of disorders of haemostasis and haemopoiesis, physical findings in haemorrhagic disorders, evaluation of lymphadenopathy (painful, enlarged, location, history), evaluation of neutropenic patients, hepatosplenomegaly, thrombophilia.</p> <p>Gastroenterology: history, extra-abdominal symptoms (odorous breath, regurgitation, heartburn, taste disorders, dysphagia, odynophagia, hiccups), abdominal symptoms (abdominal pain: localisation and differential diagnosis, chronic abdominal pain, nausea, vomiting, acute abdomen, reflux, melaenas, haematochezia, constipation, acute and chronic diarrhoea, bloating, evaluation for presence of ascetic fluid, jaundice), physical: survey (lips, gingiva, denture, tongue, skin of abdomen, scars, muscle movements-respiratory movements, peristalsis), palpation (abdominal wall, organs: liver, spleen, gallbladder, epigastrium, flanks, hypogastric, umbilical, iliac & hypochondriac regions), percussion (technique, liver and spleen dimensions), auscultation (bowel sounds, abnormal sounds: borborygmi, metallic, murmurs), physical findings of ascites, rectal and anal digital examination, haemorrhoids.</p> <p>Skin: history (rashes, hair loss, growths, sun exposure), family history, survey of skin and adnexae: colour, moisture, temperature, texture, lesions: colour, size, palpation, pressure, distribution, ABCDE for recognition of melanoma.</p>
Teaching Methodology	Face-to-face

Bibliography	<ul style="list-style-type: none"> Lynn S Bickley. Bates' Guide to Physical Examination and History-Taking. 11th Edition; 978-1609137625; Lippincott Williams and Wilkins; 2012. <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Macleod's Clinical Examination; Douglas, Graham; 12th; 978-0443068485; Churchill Livingstone; 2009.</p>										
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment /Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	General Surgery				
Course Code	MED305				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd year / 5 th semester				
Teacher's Name	Dimitrios Ntourakis				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	4 hrs
Course Purpose and Objectives	<p>Purpose: Basic General Surgery is the introductory course to clinical surgery. It is a 13-week course comprised of amphitheater lectures, laboratory skill-stations, problem based learning modules, simulation training and hospital clinical training. This course aims to provide a motivating learning environment in which the students may acquire the surgical knowledge and the technical skills necessary for their clinical practice.</p> <p>Objectives: Knowledge and understanding After completion of the course the student should be able to identify patients with surgical conditions/problems related to certain defined clinical situations. For each of these specified clinical situations the student should be able to describe and explain:</p> <ul style="list-style-type: none"> • Pathophysiological mechanisms • How to examine the situation • Important differential diagnoses • Principles of patient care and therapy <p>Technical skills and abilities The student should be able to perform:</p> <ul style="list-style-type: none"> • History taking and documenting in record • Targeted physical examination • Assessment of the critical ill surgical patient • Primary assessment of the trauma patient • C-spine stabilization • Venous puncture • Peripheral venous catheter insertion • Arterial puncture • Local anesthesia • Suture of skin wound • Hygiene at wards OR and ER • Principles of aseptic technique • Placement of urinary catheter 				

	<ul style="list-style-type: none"> • Rectal examination <p>Communication Skills & professionalism</p> <ul style="list-style-type: none"> • Demonstrate effective collaboration skills as a member of a team, including learning teams and health care teams. • Communicate effectively with colleagues and other health care professionals through the use of active listening and appropriate verbal, nonverbal and written skills. • Commitment to professional and personal excellence with adherence to ethical principles. • Demonstrate honesty, integrity, respect, and compassion in all interactions with patients, peers, faculty, staff, and other health care professionals. • Demonstrate accountability for academic, patient care and professional responsibilities. • Acknowledge personal limitations and mistakes, and critically evaluate mistakes to promote professional development. 		
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Know the physiological changes resulting from surgery and their compensatory mechanisms. • Understand the indications, expected results, and possible complications of surgery. • Recognize common surgical diseases and patient presentations. • Formulate from the history, physical exam, and patient studies, a differential diagnosis and develop an initial plan for further patient evaluation and treatment. • Interpret laboratory, diagnostic and radiological tests associated with common surgical diseases. • Identify common surgical emergencies and perform an initial assessment of the critically ill patient using the ABCDE approach. • Be aware of the major problems of multiple trauma patients and understand the principles of ATLS. • Obtain basic technical skills necessary for taking care the adult surgical patients. • Build up their medical communication skills and non-technical skills necessary for teamwork in surgery. 		
Prerequisites	Anatomy, Physiology	Co-requisites	Semiology
Course Content	<ul style="list-style-type: none"> • Biological response to surgical damage on and healing. • Principles of fluid and electrolyte management and surgical nutrition. • Hemostasis, bleeding and transfusion of blood products. • Physiopathology of wounds, burns, frost and energy related injuries. • Shock in the surgical patient. • Multiple trauma patient management and ATLS principles. • Acute abdomen and surgical emergencies. • Preoperative assessment of surgical risk. • Basic principles of surgical technique. • Standards for asepsis in surgery. • Surgical infections and antibiotic treatment. 		

	<ul style="list-style-type: none"> • Postoperative complications • Principles of oncologic surgery. • Metabolic and bariatric surgery. • Basic principles of transplants of organs and tissues. • Basic surgical pathology for different anatomical regions and systems. <p>The students are assessed by a mid-term and a final written exam comprised of multiple choice questions and short clinical problems. The acquired clinical skills are tested with Objective Structured Clinical Examinations (OSCEs). Team based clinical problem analysis with oral presentation as well as lab & class participation are also graded.</p>												
Teaching Methodology	Face-to-face												
Bibliography	<p>Bailey & Love's Short Practice of Surgery 26th Edition; Norman Williams, Ronan O'Connell; 26th; ISBN 978-1444121278; CRC Press; 2013</p> <p>Current Diagnosis and Treatment Surgery: Thirteenth Edition; Gerard M. Doherty; 14th; ISBN: 978-0071792110; McGraw-Hill Medical; 2015</p> <p>Oxford Handbook of Clinical Surgery 4th edition; Greg McLatchie, Neil Borley, Joanna Chikwe; 4th; ISBN: 978-0199699476; Oxford University Press; 2013</p>												
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>20%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Clinical skills exam / OSCE</td> <td>20%</td> </tr> <tr> <td>Assignment / clinical problem</td> <td>10%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	20%	Final Examination	40%	Clinical skills exam / OSCE	20%	Assignment / clinical problem	10%	Class Participation	10%		100%
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Final Examination	40%												
Clinical skills exam / OSCE	20%												
Assignment / clinical problem	10%												
Class Participation	10%												
	100%												
Language	English												

Course Title	Pathophysiology II				
Course Code	MED306				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd year/ 2 nd semester				
Teacher's Name	Professor Theodoros Xanthos Dr. Konstantinos Tsioutis				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	3 hrs
Course Purpose and Objectives	<p>The course is intended to familiarize the students with the basic pathophysiological derangements leading to different symptoms and signs. The objective of this course is to enhance the students' knowledge regarding the detailed pathophysiological mechanisms of disease. The course aims at allowing students to progress to more advanced medical courses such as Internal Medicine and the various medical specialties. The objective of the course is to familiarize students with</p> <p>The pathogenesis of diseases of the different bodily systems, with consideration of possible mechanisms and underlying metabolic derangements, and their manifestation of</p> <ul style="list-style-type: none"> ○ Circulatory System, ○ Respiratory System, ○ Endocrine and genital pathophysiology, ○ Urinary Tract diseases 				
Learning Outcomes	<p>Upon successful completion of the course the students will be able to:</p> <ul style="list-style-type: none"> • Describe the pathophysiology of glomerular diseases • Discuss the pathophysiology of glomerulopathies • Summarize the involvement of the kidney in other diseases (scleroderma, etc) • Describe the pathophysiology of Urinary tract infection • Describe the pathophysiology of acute and chronic tubulointerstitial nephritis • Describe the pathophysiological effects of hypertension on the kidney • Summarize the pathophysiology of renal calculi and nephrocalcinosis • Describe the drug induced impairment of renal function • Describe the pathophysiology of Acute kidney injury • Discuss the pathophysiology and the range of chronic kidney disease • Describe the pathophysiology of the diseases of the prostate gland • Summarize the pathophysiology of cardiac arrhythmias • Discuss the pathophysiology of heart failure (left and right) • Summarize the pathophysiology of coronary artery disease • Discuss the pathophysiological aftermath of valvular diseases 				

	<ul style="list-style-type: none"> • Describe the pathophysiology of endocarditis • Describe the basic pathophysiological events in certain congenital anomalies • Discuss the pathophysiology of pulmonary hypertension and pulmonary embolism • Summarize the pathophysiology of myocarditis and cardiomyopathies • Describe diseases of the pericardium • Discuss the pathophysiology of primary and secondary hypertension • Interpret all ECG pathologies • Describe the pathophysiology of vascular peripheral disease • Describe the diseases of the upper respiratory tract • Summarize the pathophysiology of bronchitis • Discuss chronic obstructive pulmonary disease • Summarize the pathophysiology of sleep apnea • Describe the pathophysiological mechanisms of cystic fibrosis • Summarize the pathophysiology of asthma • Describe the pathophysiological aftermath of pneumonias and tuberculosis • Describe the different pathophysiologies of diffuse diseases of the lung parenchyma • Discuss the aetiology of endocrine disease • Describe the pathophysiology of pituitary and hypothalamic disease • Summarize the pathophysiology of abnormal stature, acromegaly dwarfism and gigantism • Summarize the diseases of the thyroid • Discuss the endocrine pathophysiology in males and females • Describe the most common pathophysiologies of the genital system in males and females • Discuss the pathophysiology of the adrenal axis • Describe disorders of calcium metabolism • Discuss multiple endocrine neoplasias 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In this regard the students will be familiar with the pathophysiology of:</p> <ul style="list-style-type: none"> ○ Circulatory System, ○ Respiratory System, ○ Endocrine and genital pathophysiology, ○ Urinary Tract diseases 		
Teaching Methodology	Face-to-face		
Bibliography	Pathophysiology of Disease: An Introduction to Clinical Medicine 7/E by Gary D. Hammer; Stephen J. McPhee		

	100 Case Studies in Pathophysiology by Harold J Bruyere, Jr.ka Pathophysiology : A Clinical Approach By Carie A. Braun , By Cindy M. Anderson		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Clinical Problems	10%	
	Log books with reflection	10%	
	Class participation (team effort)	10%	
		100%	
Language	English		

Course Title	Medical Microbiology				
Course Code	MED307				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd Year / 6 th Semester				
Teacher's Name	George Petrikkos, Maria Alexandrou, Mary Eleftheriadou				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	3 hrs
The main Course Purposes and Objectives	<p>Purposes and objectives of this course is to familiarised students with:</p> <ul style="list-style-type: none"> • Microorganisms of clinical importance (bacteria, fungi, parasites, viruses), that cause disease to humans, explaining the mechanisms of bacterial pathogenesis and development of infectious disease , their main clinical manifestations and their epidemiology • Antimicrobials, their mode of action and the mechanisms of resistance and the importance of the surveillance of the antimicrobial resistance • The importance of Multi- Drug- Resistance (MDR) bacteria and the impact of resistance in public health with the risk of nosocomial and community-acquired infections caused them as well as the fundamental principles of infection control and prevention from common and MDR resistant microorganisms and antibiotic stewardship. • The course will also include laboratory exercises for the investigation and diagnosis of the most common human infections. <p>The ultimate goal of this course is to get students to understand how infectious diseases are caused by microbes and how to recognize, prevent and treat them, so as to prepare them for entry into the clinical curriculum and to provide students with an introduction to infectious diseases that will sustain them through their future medical career.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • List the key microorganisms (microbes, viruses, fungi and parasites) which can cause disease in humans and define the main diseases they can cause. • Define the suspected causative agent (bacterial, viral, fungal, protozoan or parasitic) correlated to the infection. • List and understand the multi-drug resistant bacteria and their role in hospital and community-acquired infections. • Discuss the microbiological basis and clinical use of antimicrobials, their mechanism of action. Describe resistance 				

	<p>mechanisms to the different classes of antimicrobials and apply this knowledge towards targeted and prudent use of antimicrobials.</p> <ul style="list-style-type: none"> • Describe the procedures for the prevention and control of infectious diseases. • Be able to analyze a scientific article or a case report related to Medical Microbiology and present a critique to their peers. <p>Laboratory skills:</p> <ul style="list-style-type: none"> • Demonstrate an appreciation and understanding of clinical laboratory skills and techniques related to the isolation, staining, identification, assessment of metabolism, and control of microorganisms. • Demonstrate appropriate laboratory skills on applying basic microbiological culture and non-culture diagnostic techniques (serological and PCR). • Demonstrate that they have acquired expertise about the procedures used for the microbiological examination of the most important biological specimens. • Understand the definition and principle of MIC and MBC and explain the antimicrobial susceptibility testing. • Interpret the evaluation of the results of antimicrobial susceptibility testing, including the explanation of multidrug-resistant bacteria's phenotypes. • Interpret and draw appropriate conclusions from laboratory results. 		
Prerequisites	MED 208	Co-requisites	None
Course Content	<p>The course aims to familiarize students with:</p> <ul style="list-style-type: none"> • Classification of microorganisms. • Infectious diseases and causative agents . • Normal microflora, virulence factors, pathogenesis and host-pathogen interaction. • Basic principles of ecology and epidemiology of Infectious diseases . • Control and prevention of transmission . • Hospital-acquired infections. Infection prevention and control. • Antimicrobial agents: classification, mode of action, uses and indications, resistance mechanisms. • Diagnostic microbiology: the importance of the microbiology laboratory and basic principles of laboratory investigation. <p>Virology</p>		

	<p>General properties of viruses and their epidemiology. Virological replication. Host defense mechanisms. Laboratory investigation and diagnosis. Respiratory viruses. Herpes viruses. Gastrointestinal viruses. Hepatitis viruses. HIV. HPV. Enteroviruses. Arboviruses. Pediatric virology. Vaccination.</p> <p>Bacteriology Cell biology of bacteria. Genetics. Bacterial metabolism and replication. Gram-positive cocci and bacteria. Gram-negative cocci and bacteria. Anaerobes. Mycobacterial diseases. Zoonoses. Vector-borne bacteria. Intracellular bacteria.</p> <p>Mycology Systemic and cutaneous fungal infections. Laboratory diagnosis of fungal infections. (Microsporum, Trichophyton, Epidermophyton, Malassezia, Fusarium, Candida, Cryptococcus, Aspergillus, Zygomycetes, Fussarium ,Dimorphic fungi).</p> <p>Parasitology Protozoa and helminths (<i>E. histolytica</i>, <i>Naegleria</i>, <i>Acanthamoeba</i>. <i>Giardia lamblia</i>, <i>Trichomonas vaginalis</i>. <i>Leishmania spp.</i> <i>Trypanosoma spp.</i> <i>Toxoplasma gondii</i>. <i>Plasmodium spp.</i> <i>Cryptosporidium</i>. <i>Pneumocystis jirovecii</i>. <i>Strongyloides stercoralis</i>. <i>Enterobius vermicularis</i>. <i>Ascaris lumbricoides</i>. <i>Taenia spp.</i> <i>Echinococcus spp.</i> <i>Schistosoma spp</i>) causing gastrointestinal, respiratory, urogenital, bloodstream, central nervous system and cutaneous infections. Epidemiologic and ecological factors in the pathogenesis of disease.</p> <p>Laboratory exercises: Basic principles of investigation and diagnosis. Diagnostic methods for isolation and identification of microorganisms from various clinical specimens. Interpretation of diagnostic tests.</p>
Teaching Methodology	Face-to-face
Bibliography	<ul style="list-style-type: none"> • Medical Microbiology; Murray, P.; 8th Edition ; ISBN :978-0-323-29956-5; Mosby; 2016 <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <ul style="list-style-type: none"> • Medical Microbiology: A Guide to Microbial Infections: Pathogenesis, Immunity, Laboratory Diagnosis and Control; Greenwood, David; 17th; 978-0443102097; Churchill Livingstone; 2007 • Microbiology and Immunology (Board Review Series) Louise Hawley et al . Sixth Edition : Wolters Kluwer-Lippincott Williams and Wilkins,2014 • USMLE Step 1, Immunology and Microbiology Lecture notes. Kim Moscatello et al .Kaplan Inc 2013

Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Assignment /Lab	20%	
	Class Participation	10%	
		100%	
Language	English		

Course Title	Pathology II				
Course Code	MED308				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd Year / 6 th Semester				
Teacher's Name	Ilias Nikas				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	3 Hours
Course Purpose and Objectives	<p>This course is intended to continue giving students a broad overview of Pathology and it is a sequel of Pathology I. Pathology II is designed to help students understand Disease in multiple levels -e.g. molecular, etiologic, pathogenetic, morphologic, prognostic- and connect this knowledge with the other Disease courses of the medical curriculum that run in parallel (Pathophysiology II, Semiology II, and Pharmacology II). The course aims to correlate basic with clinical science and to serve as a foundation to support students develop an integrated approach towards understanding Disease.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Analyze abnormal tissue patterns connected with Disease and compare them to normal Histology • Define Disease in the molecular and structural level; connect Disease in these levels with subsequent abnormal function and interpret corresponding clinical manifestations including signs, symptoms, and complications • Judge when to order a diagnostic Pathology examination and select the appropriate one in the clinical setting • Distinguish the role of Pathology in the “bench-to-bedside” practice of Medicine • Evaluate Pathology Reports and integrate them in the appropriate management algorithms • Understand the role of Cytopathology in modern patient care • Determine the prognosis and treatment of selected Diseases • Describe the Pathology of Atherosclerosis, Aneurysms, Thrombosis, and Embolism and correlate with the associate clinical findings • Define the Pathology of Ischemic Heart Disease, Congestive Heart Failure, Valvular Disorders, Endocarditis, Myocarditis, and Cardiomyopathies 				

	<ul style="list-style-type: none"> • Describe the Pathology of the Inflammatory and Neoplastic Diseases of the Upper Respiratory Tract • Describe the Pathology of Pulmonary Infections, Obstructive and Restrictive Pulmonary Disease, and Lung Cancer and correlate with the corresponding clinical picture • Categorize, Grade and Stage Lung Cancer and determine the most appropriate treatment for each case • Identify and describe the morphology and the associated clinical presentation of selected Diseases involving the Endocrine System (e.g., Pituitary Adenoma, Graves Disease, Hashimoto Thyroiditis, Thyroid Carcinoma with its types, Parathyroid and Adrenal Adenomas, and Pheochromocytoma) • Define the Pathology of Glomerular Diseases, Tubular and Interstitial Disorders and Neoplasms of the Kidney • Identify the morphology and corresponding clinical manifestations of the Infections of the Urinary System and Urolithiasis • Describe the Pathology of the main Inflammatory, Degenerative, and Neoplastic Diseases of the Nervous System • Define the key cellular elements composing a normal and abnormal cerebrospinal fluid (CSF) and evaluate the significance of its examination in patient care • Identify and describe the Pathology of some selected Diseases of the Skin (Blistering Lesions, Epithelial Neoplasms, and Melanoma) <p>Laboratory skills</p> <ul style="list-style-type: none"> • Recognize abnormal tissue patterns accompanying selected Diseases and compare them to normal Histology • Integrate gross and microscopic pictures of various Diseases with corresponding loss of function, which reflects to signs, symptoms, and complications; evaluate prognosis and decide appropriate treatment • Generate diagnoses by combining clinical information with morphologic interpretation • Explain signs/symptoms and/or complications by using a known tissue morphology • Develop problem-solving skills and critical thinking ability via clinical cases • Identify and describe the histologic hallmarks of malignancy and apply this knowledge to analyze multiple cancers • Identify and describe selected Diseases involving the Vascular System, the Heart, the Respiratory System, the Endocrine System, the Kidney and Urinary Tract, the Nervous System and the Skin 		
Prerequisites	None	Co-requisites	None
Course Content	In that regard, students will familiarize themselves with the Pathology of:		

	<ul style="list-style-type: none"> • Hemodynamic Dysfunction (Infarction, Thrombosis, Embolism) • Vascular System • Heart • Respiratory System • Endocrine System • Kidney and Urinary Tract • Nervous System • Skin <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observation of alterations in cells and tissues involving different Diseases under the light/virtual microscope • Clinical problems highlighting pathologic-clinical correlation and integrating basic science • Pathology Reports and the way to interpret them in the clinical practice setting • Journal clubs and review of current medical literature related to Pathology 										
Teaching Methodology	Face- to- face										
Bibliography	<p>BRS Pathology (Board Review Series); Arthur S. Schneider MD and Philip A. Szanto MD; 5th Edition; 978-1451115871; LWW; 2013</p> <p>Additional Recommended Textbook:</p> <p>Robbins Basic Pathology; Vinay Kumar, MBBS, MD, FRCPath, Abul K. Abbas MBBS, Jon C. Aster MD, PhD; 9th Edition; 978-1437717815; Saunders; 2012</p>										
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>20%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab	20%	Class participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment /Lab	20%										
Class participation	10%										
	100%										
Language	English										

Course Title	Pharmacology II				
Course Code	MED309				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd year/ 2 nd semester				
Teacher's Name	Professor Theodoros Xanthos Alexia Polissidis				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	3 hrs
Course Purpose and Objectives	<p>The course is intended to familiarize the students with the basic pharmacological concepts and provide the basic pharmacology of specific systems. The objective of this course is to enhance the students' knowledge regarding the detailed pharmacological agents needed to treat disease. The course aims at allowing students to progress to more advanced medical courses such as Internal Medicine and the various medical specialties. The objective of the course is to familiarize students with the pharmacology of</p> <ul style="list-style-type: none"> ○ Circulatory System, ○ Respiratory System, ○ Endocrine and genital pathophysiology, ○ Urinary Tract diseases 				
Learning Outcomes	<p>Upon successful completion of the course the students will be able to:</p> <ul style="list-style-type: none"> • Discuss the drugs commonly used in heart failure (Vasodialators (ACE inhibitors, angiotensin II receptor subtype 1 antagonists-sartans, b-blockers, diuretics, directly acting vasodialators, drugs that increase myocardial contraction, aldosterone antagonists) • Summarize antiarrhythmic drugs (Classes I, II, III and IV, other) • Discuss anti-anginal drugs (Organic nitrates, b-blockers, Calcium channel blockers) • Discuss the pharmacology of antihypertensive drugs (Diuretics, b-blockers, ACE inhibitors, angiotensin II receptor subtype 1 antagonists, calcium blockers, a-blockers, others (e.g. clonidine, minoxidil, fenoldopam)) • Describe the pharmacology of Diuretics (Carbonic anhydrase inhibitors, Loop diuretics, Thiazides, Aldosterone diuretics, Triamterene and amiloride Osmotic diuretics) • Discuss lipid lowering drugs (Statins: HMG-CoA reductase inhibitors, Fibrates, Niacin, Drugs that inhibit cholesterol absorption) • Describe drugs of the Respiratory System Bronchial asthma (b-adrenergic agonists, theophylline, corticosteroids, zafirlukast, cromolyn, nedocromil, cholinergic antagonists, omalizumab) Rhinitis (a-adrenergic agonists, antihistamines, corticosteroids, cromolyn) Chronic obstructive 				

	<p>pulmonary disease (b-adrenergic agonists, cholinergic antagonists, corticosteroids), Cough (opioids, dextromethorphan)</p> <ul style="list-style-type: none"> Describe drugs used in endocrinology (Hypothyroidism and hyperthyroidism treatment, Insulin and other glucose-lowering drugs other drugs that stimulate insulin secretion, sulfonylureas, Estrogens and androgens, Oestrogens, Progestogens, Antiprogestones, Gonadotrophin-releasing hormone: agonists and antagonists, Androgens, Antiandrogens, Glucocorticoids Mineralocorticoids) 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In this regard the students will be familiar with the pathophysiology of:</p> <ul style="list-style-type: none"> Circulatory System, Respiratory System, Endocrine and genital pathophysiology, 		
Teaching Methodology	Face-to-face		
Bibliography	Pharmacology, Richard Harvey, 5th Edition, Lippincott's Illustrated Reviews		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Clinical Problems	10%	
	Log books with reflection	10%	
	Class participation (team effort)	10%	
		100%	
Language	English		

Course Title	Semiology II				
Course Code	MED310				
Course Type	Compulsory				
Level	Doctor of Medicine (MD)				
Year / Semester	3 rd Year / 6 th Semester				
Teacher's Name	Theodoros Xanthos, Constantinos Tsioutis				
ECTS	6	Lectures / week	3 hours	Laboratories / week	3 hours
Course Purpose and Objectives	<p>The course is intended to familiarize students with the basic components of history taking and physical examination and to help them identify normal clinical findings, as well as common signs and symptoms of the Circulatory System, Respiratory System, Endocrinology, and Urinary tract System.</p> <p>In addition, the course aims to help students develop communicating skills with their patients and their environment.</p> <p>Students will learn to apply all necessary steps leading to a complete patient history, to the development of a medical report and to the diagnostic approach of a patient.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Perform complete physical examination and recognize the main symptoms and signs of common diseases. • Use acquired knowledge and skills to interpret the findings of physical examination in different disorders (Circulatory System, Respiratory System, Endocrinology and Urinary tract) and provide an initial patient overview. • Demonstrate the competence to construct an initial diagnostic judgment and plan a diagnostic strategy. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>The course aims for students to:</p> <ul style="list-style-type: none"> • Develop certain practices that will provide students with the ability to effectively manage patients during clinical training. • Further their theoretical expertise on the clinical presentation of the most common disorders of the Circulatory System, Respiratory System, Endocrinology, and Urinary tract System. • To practice on interview methods and behavioural techniques during medical history taking and physical examination and ranking of patients' problems. 				

	<ul style="list-style-type: none"> • To perform complete physical examination and learn to recognize the main symptoms and signs of common diseases of the Circulatory System, Respiratory System, Endocrinology, and Urinary tract System. • To practice on oral case presentations. <p>In particular, students will be familiarized with the following signs and symptoms:</p> <p>Circulatory system: history, basic symptoms (chest pain: characteristics, dyspnoea, haemoptysis, cough, palpations, oedema, fatigue), survey (patient position, tachypnoea, cyanosis, oedema, facies, jugular distension, hepatojugular sign), percussion, palpation (arterial pulse, arterial pressure), auscultation (normal cardiac sounds, splitting, gallop rhythms, additional or abnormal sounds, heart murmurs and radiations, vascular murmurs, friction rubs), congenital cardiopathies, valvulopathies (aortic coarctation, patent ductus arteriosus, pulmonary stenosis, mitral stenosis and/or regurgitation, aortic stenosis and/or regurgitation, aortic insufficiency), pericarditis, pericardial tamponade, pulmonary hypertension, heart failure (right, left).</p> <p>Endocrinology: common endocrinopathies, medical history (personal and familial), signs and symptoms that refer to endocrinopathy, diabetes mellitus, gout, Wilson’s disease, thyroid disorders, physical examination of thyroid gland, disorders of the hypothalamus-pituitary-adrenal axis, signs and symptoms of electrolyte abnormalities (calcium, potassium), dyslipidaemia. Male and female disorder abnormalities</p> <p>Respiratory system: symptoms (cough, sputum, hemoptysis, dypnoea, chest pain), extrapulmonary symptoms (eg.pleurisy), physical examination (respiratory movements, chest types, respiratory rate, abnormal respiration), chest skin, chest palpation, percussion, auscultation (normal respiration, additional sounds: crackles, wheezing/stridor, friction rub), evaluation of findings (blockage, bronchitis, bronchiectasis, asthma, pneumonia, atelectasia, emphysema, pneumothorax, effusion), differentiation between respiratory and cardiac disorders. YTP\</p> <p>Urinary system: urinary symptoms (colicky pain, dysuria, haematuria, polyuria, oliguria, anuria, urine retention), clinical signs from the urinary system (genitals, skin disorders), palpation of kidneys, urinary bladder, prostate.</p>
Teaching Methodology	Face-to-face
Bibliography	<ul style="list-style-type: none"> • Lynn S Bickley. Bates' Guide to Physical Examination and History-Taking. 11th Edition; 978-1609137625; Lippincott Williams and Wilkins; 2012.

	<p>ADDITIONAL RECOMMENDED TEXTBOOKS: Macleod's Clinical Examination; Douglas, Graham; 12th; 978-0443068485; Churchill Livingstone; 2009.</p>											
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>		Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%											
Final Examination	40%											
Assignment / Lab	20%											
Class Participation	10%											
	100%											
Language	English											

Course Title	Clinical Training I (Respiratory and Cardiovascular System)				
Course Code	MED407				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	4 th Year / 7 th Semester				
Teacher's Name	Dr. Ioannis Pantazopoulos / Prof. Gerasimos Filippatos				
ECTS	15	Lectures / week	4 hours	Laboratories / week	16 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of <ul style="list-style-type: none"> ○ The immune, cardiovascular and respiratory system 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Identify the most frequent pathologies of the immune system • Diagnose the most frequent pathologies of the immune system: obtaining a clinical history and carrying out a physical examination focused on the pathology of the immune system, indications and interpretation of the principal complementary diagnostic tests (basic analytical immunology, cutaneous tests, histocompatibility studies, imaging and anatomopathological tests, etc). • Manage the clinical treatment of most frequently encountered pathologies of the immune system. • Identify the most frequently encountered pathologies of the respiratory system. • Diagnose the most frequently encountered diseases of the respiratory system by obtaining a past clinical history with focus on the respiratory pathology, physical respiratory examination (respiratory auscultation, percussion, inspection, palpation, etc), indications for and interpretation of the principal complementary tests for diagnosis (spirometry, gasometry, arterial blood gasses) clinical laboratory tests, imaging, anatomopathological tests, etc. • Manage the medical-surgical treatment of the most frequent diseases of the respiratory system. • Identify the most frequent cardiocirculatory pathologies • Diagnose the most frequent cardiocirculatory pathologies by obtaining a past clinical history with focus on cardiovascular pathology, physical cardiovascular examination (cardiac auscultation, taking pulses and arterial pressure, assessment of 				

	<p>edemas, etc), indications and interpretation of the principal complementary tests for diagnosis (electrocardiograms, stress tests, clinical laboratory tests, imaging, anatomopathological tests, etc).</p> <ul style="list-style-type: none"> • Manage the medical-surgical treatment of the most frequently encountered diseases of the cardiovascular system. 		
Prerequisites	None	Co-requisites	None
Course Content	<ul style="list-style-type: none"> ○ Most frequently encountered pathologies of the immune system <ul style="list-style-type: none"> ○ Inflammatory reactions, hypersensitivity reactions, autoimmune diseases and other pathologies relevant to the immune system.. ○ Most frequently encountered pathologies of the respiratory system. <ul style="list-style-type: none"> ○ Respiratory insufficiency, obstructive and restrictive syndromes, lung tumors, pleural pathology, mediastinal pathology and other pathologies that are relevant to the respiratory system ○ Most frequently encountered pathologies of the cardiovascular system <ul style="list-style-type: none"> ○ Cardiac arrhythmias, thoracic pain, acute coronary syndrome, cardiac insufficiency, syncope, shock, valvulopathies, ischemic syndromes, venous alterations and arterial hypertension, edematous syndromes, pericardial pathologies and other relevant cardiovascular pathologies.. ○ Methods of diagnosis (history, physical examination and laboratory tests) of the above diseases and conditions ○ Medical and surgical treatment and prevention of the above diseases and conditions 		
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients		
Bibliography	<p>Respiratory Medicine; Gibson, John / Geddes, Duncan; 3rd; 9780702026133; Saunders; 2001</p> <p>Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine (2 Volume Set) (Heart Disease (Braunwald) (2 Vols); Robert O. Bonow; 9th; 978-1437727081; Elsevier Health Sciences; 2011</p> <p>The ECG Made Easy; Hampton John R.; 978-0443068171; Churchill Livingstone; 2008</p> <p>Pocket Guide to ECG Diagnosis; Chung, Edward; 2nd; 978-0865425897; Wiley-Blackwell; 2001</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p>		

	<p>Clinical Respiratory Medicine; Richard K. Albert , Stephen G. Spiro , James R. Jett; 3rd; 978-0323024976; Mosby; 2008</p> <p>Synopsis of Diseases of the Chest; Richard S. Fraser MD , Neil C. Colman MD, Nestor L. Muller MD PhD , P. D. Pare MD; 3rd; 978-0721604459; Saunders; 2005</p> <p>Specialist Training in Cardiology; Purcell, Henry; 978-0723433217; Mosby; 2005</p> <p>Manual of Cardiovascular Medicine; Griffin, Brian; 3rd; 978-0781778541; Lippincott Williams and Wilkins; 2008</p> <p>The ECG in Practice; Hampton John R.; 7th; 978-0443068171; Churchill Livingstone; 2008</p> <p>Color Atlas of Vascular Diseases; Diehm, C.; 978-3642082962; Springer; 2012</p> <p>CURRENT Diagnosis & Treatment in Cardiology; Crawford Michael E.; 3rd; 978-0071442114; McGraw Hill; 2009</p> <p>Netter's Cardiology; Runge M., Ohman E.M.; 2nd; 978-1437706376; Saunders; 2010</p>										
<p>Assessment</p>	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
<p>Language</p>	<p>English</p>										

Course Title	Clinical Training II (Digestive System and Hematology)				
Course Code	MED417				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	4 th Year / 7 th Semester				
Teacher's Name	Dr. George Potamitis / Prof. Panayiotis Panayiotidis				
ECTS	15	Lectures / week	4 hours	Laboratories / week	16 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of • The digestive system and the blood and blood forming organs 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Identify the most frequently encountered pathologies of the digestive system: • Diagnose the most frequently encountered pathologies of the digestive system by obtaining a past clinical history and carrying out physical examination with focus on digestive pathologies, indications and interpretation of the principal complementary tests for diagnosis (clinical laboratory and imaging tests, anatomopathological studies, etc). • Carry out the medical-surgical management of the most frequently encountered pathologies of the digestive system. • Identify the most frequently encountered pathologies of the hematopoietic system. • Diagnose the most frequently encountered pathologies of the hematopoietic system by obtaining a past clinical history and carrying out a physical examination with focus on the hematopoietic system, indications and interpretation of the principal complementary tests for diagnosis (hemogram, peripheral blood smear, proteinogram, hemostasis tests, iron metabolism values, other laboratory, imaging and anatomopathological tests, etc). • Manage the medical-surgical treatment of the most frequent diseases of the hematopoietic system. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> • Most frequently encountered pathologies of the digestive system. • Functional abnormalities, gastrointestinal bleeding, ulcerative syndromes, acute abdomen, pathologies of the biliary pathway, jaundice, liver failure, portal hypertension, ascites, pathology of 				

	<p>the pancreas, gastrointestinal cancer, malabsorption syndromes, diarrhoea, constipation and other relevant pathologies of the digestive system.</p> <ul style="list-style-type: none"> • Most frequently encountered pathologies of the hematopoietic system. • Hyperglobulinemia, anemia syndromes, leucocyte abnormalities, bleeding and thrombotic diathesis, pathology of the lymphatic system, hemotological neoplasias and other relevant hematological pathologies • Methods of diagnosis (history, physical examination and laboratory tests) of above diseases and conditions • Medical and surgical treatment and prevention of above diseases and conditions 										
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Sleisenger and Fordtran's Gastrointestinal and Liver Disease; Sleisenger S., Fprdtran G.; 7th; 978-0721653693; Saunders; 2003</p> <p>Haematology at a Glance; Mehta, A.B. / Hoffbrand, A.V.; 3rd; 978-1405179706; Wiley Blackwell; 2009</p> <p>Essential Haematology;; Hoffbrand, A.V.; 6th; 978-1405198905; Wiley-Blackwell; 2011</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Mosby's Color Atlas and Text of Gastroenterology and Liver Disease; Richard J. Aspinall; 978-0723431039; Mosby; 2001</p> <p>Haematology: An Illustrated Colour Text; Howard,, M. / Hamilton, P.; 3rd; 978-0443103629; Churchill Livingstone; 2007</p> <p>Atlas of Gastrointestinal Surgery; Cameron, John; 2nd; 978-1607950271; McGraw-Hill; 2012</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Diagnosis by Imaging				
Course Code	MED322				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	4 th Year / 8 th Semester				
Teacher's Name	Dr. Chrysa Tziakouri				
ECTS	7	Lectures / week	5 hours	Laboratories / week	2 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The fundamentals of diagnostic image interpretation and clinical indications for imaging examinations and special procedures • The principles of protection from ionizing radiation 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Describe the fundamentals of the interaction of radiation with the human organism. • Assess and define the indications and contra-indications of the various diagnostic imaging procedures. • Describe the diagnostic imaging techniques. • Describe the basic semiology used in the various diagnostic procedures involving imaging techniques. • Evaluate the radiographic images obtained. • Apply the recommendations for radiological protection against ionizing radiation utilized in diagnostic and therapeutic procedures. • Discuss the principles of digital technology as applied to diagnostic imaging. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> • Fundamentals of the interaction of radiation and the human organism. • Indications and contra-indications of the various imaging diagnostic procedures. • Techniques used to obtain diagnostic images. • Interpretation of the diagnostic images. • Criteria for radiological protection. • Principles of digital technology. 				

Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Textbook of Radiology and Imaging - V.1; Sutton, D.; 7th; 978-0443071096; Churchill Livingstone; 2002</p> <p>Textbook of Radiology and Imaging - V.2; Sutton, D.; 7th; Churchill Livingstone; 2002</p> <p>Atlas of Radiologic Anatomy; Wicke, L.; 7th; 978-1929007462; Saunders; 2004</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Felson's Principles of Chest Roentgenology (includes CD-ROM); Goodman, Lawrence R.; 3rd; 978-1416029236; Saunders; 2007</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Clinical Training III (Infectious Diseases and Clinical Microbiology)				
Course Code	MED408				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	4 th Year / 8 th Semester				
Teacher's Name	Prof. George Petrikkos Dr. Konstantinos Tsioutis				
ECTS	9	Lectures / week	4 hours	Laboratories / week	6 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> The clinical manifestations, diagnosis, medical and surgical management and prevention of the infectious diseases 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Identify the most frequently encountered infectious pathologies in the various organs and systems. Diagnose the most frequently encountered infectious pathologies in the various organs and systems by obtaining a past clinical history and carrying out physical examination with focus on infectious pathologies, indications and interpretation of the principal complementary studies of infectious pathologies, obtaining and processing the various biological samples in the clinical microbiology laboratory. Manage the medical-surgical treatment of the most frequently encountered infectious diseases in the various organs and systems. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> Infectious Pathologies of the Various Organs and Systems <ul style="list-style-type: none"> Bacterial, viral and fungal diseases Parasitic diseases and zoonoses Diseases due to intestinal bacteria (Enterobacteriaceae, vibrios, Campylobacter, Helicobacter). Prevention of infectious diseases and immunizations Methods of diagnosis (history, physical examination and laboratory tests) of above diseases and conditions Medical and surgical treatment and prevention of above diseases and conditions 				

Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients	
Bibliography	Infectious Diseases: A Clinical Short Course; Frederick S. Southwick; 2nd; 978-0071477222; McGraw Hill; 2008 Harrison's Infectious Diseases; Dennis L. Kasper and Anthony S. Fauc; 1 edition; 978-0071702935; McGraw-Hill Medical; 2010	
Assessment	Written exams, Osces practical exam.	
	Mid-Term Examination	30%
	Final Examination	40%
	Assignment / Lab	20%
	Class Participation	10%
	100%	
Language	English	

Course Title	Clinical Training IV (Endocrine System, Uro-Nephrological System and Male Genital Tract)				
Course Code	MED418				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	4 th Year / 8 th Semester				
Teacher's Name	Dr. Stavroulla Paschou, Ass. Prof. Vasilios Protogerou, Dr. Kyriakos Ioannou				
ECTS	14	Lectures / week	5 hours	Laboratories / week	14 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of • The endocrine and uro-nephrological system and the male genital tract 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Identify the most frequently encountered pathologies of the endocrine system and the metabolism. • Diagnose the most frequently encountered pathologies of the endocrine system by obtaining a past clinical history and carrying out a physical examination with focus on the endocrine system, indications and interpretation of the principal complementary diagnostic tests (laboratory, imaging, anatomopathological tests, etc). • Manage the medical-surgical treatment of the most frequently encountered diseases of the endocrine system and the metabolism. • Identify the most frequently encountered uro-nephrological pathologies • Diagnose the most frequently encountered uro-nephrological pathologies by obtaining a past clinical history and physical examination with focus on uro-nephrological pathologies and on pathologies of the male genital tract, indications and interpretation of the basic blood serum and urine analysis related to the renal function and the electrolyte balance including acid/base abnormalities, other clinical laboratory tests, imaging, and anatomopathological tests, etc. • Manage the medical-surgical treatment of the most frequently encountered diseases of the uro-nephrological system. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Most frequently encountered pathologies of the endocrine system and the metabolism. 				

	<ul style="list-style-type: none"> • Diabetes mellitus, dislipidemias, endocrine syndromes due to glandular hyperfunction and hypofunction (pituitary, thyroid, parathyroids, adrenals), growth disorders, nutritional and eating disorders, storage diseases and other relevant endocrine and metabolic pathologies • Most frequently encountered pathologies of the uretero-nephrological systems and the male genital tract. • Hydroelectrolytic changes, acute and chronic renal insufficiency, nephrotic and nephritic syndrome, neoplasias, obstructive uropathy, pathology of the prostate, erectile dysfunction and other relevant uro-nephrological pathologies and pathologies of the male genital tract. • Methods of diagnosis (history, physical examination and laboratory tests) of the above described diseases and conditions • Medical and surgical treatment and prevention of the above described diseases and conditions 										
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Harrison's Endocrinology; J. Larry Jameson; 978-0071741446; McGraw-Hill; 2010</p> <p>Oxford Handbook of Urology; John Reynard, Simon Brewster and Suzanne Biers; 2 ed; 978-0199534944; OUP Oxford; 2009</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Rapid Revision in Endocrinology; Greenstein, B.; 978-1857757941; Radcliffe Publishing; 2007</p> <p>Emergencies in Urology; Hohenfellner, Rudolf; 978-3642080197; Springer; 2010</p> <p>Greenspan's Basic & Clinical Endocrinology; Gardner, David; 8th; 978-0071440110; McGraw-Hill; 2007</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Clinical Training V (Musculoskeletal System)				
Course Code	MED509				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	5 th Year / 9 th Semester				
Teacher's Name	TBA				
ECTS	7	Lectures / week	4 hours	Laboratories / week	16 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of the Musculoskeletal System 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Identify the most frequently encountered pathologies of the musculoskeletal system. Diagnose the most frequently encountered pathologies of the musculoskeletal system by obtaining a past clinical history and physical examination with focus on the pathology of the musculoskeletal system, indications and interpretation of the principal complementary analytical tests, imaging, anatomopathological studies, etc. Manage the medical-surgical treatment of the most frequently encountered pathologies of the musculoskeletal system. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> Most frequently encountered pathologies of the musculoskeletal system <ul style="list-style-type: none"> Principal pain syndromes of the musculoskeletal system, inflammatory and degenerative processes, autoimmune diseases affecting the musculoskeletal system, traumas and fractures, tumors and other pathologies relevant to the musculoskeletal system. Methods of diagnosis (history, physical examination and laboratory tests) of above diseases and conditions Medical and surgical treatment and prevention of above diseases and conditions 				

Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	Essential Orthopaedics and Trauma; D.J. Dandy, D.J. Edwards; 5th; 978-0443067181; Churchill Livingstone; 2009 Harrison's Rheumatology; Fauci, A.S.; 2nd; 978-0071741439; McGraw-Hill; 2010 Primer on the Rheumatic Diseases; Klippel, J.; 13th; 978-0387356648; Springer; 2008 Operative Trauma Management: An Atlas; Thal, Erwin; 2nd; 978-0838573884; McGraw-Hill; 2001 Fractures; Donald A. Wiss; 2nd; 978-0781752909; Lippincott Williams & Wilkins; 2005 Review of Orthopaedics; Mark D. Miller; 6th; 978-1437720242; Saunders; 2012										
Assessment	Written exams, Osces practical exam. <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Clinical Training VI (Nervous System and Psychiatry)				
Course Code	MED519				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	5 th Year / 9 th Semester				
Teacher's Name	TBA				
ECTS	15	Lectures / week	6 hours	Laboratories / week	14 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of • The nervous system and of psychiatric disorders 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Identify the most frequently encountered pathologies of the central and peripheral nervous system • Diagnose the most prevalent diseases of the central and peripheral nervous system by obtaining a past clinical history and physical examination with focus on the pathologies of the central and peripheral nervous system, indications and interpretation of the principal complementary studies in neurology, laboratory, imaging, anatomopathological tests, etc. • Manage the medical-surgical treatment of the most frequently encountered pathologies of the central and peripheral nervous system. • Identify the principal psychiatric disorders. • Diagnose psychiatric disorders by obtaining a past clinical history and physical examination with focus on psychiatric pathologies, indications and interpretation of the principal complementary studies in psychiatry. • Manage the treatment of the principal psychiatric disorders (anxiety, depression, delirium, agitation, insomnia, etc). 				
Prerequisites	None		Co-requisites	None	
Course Content	<p>Most frequently encountered pathologies of the central and peripheral nervous system.</p> <ul style="list-style-type: none"> ○ Intracranial hypertension syndrome, cephalalgias, vertiginous syndromes, cerebellar syndromes, meningeal syndromes, convulsive syndromes, encephalopathies, cranioencephalic trauma, peripheral neuropathies and neuropathies of the autonomous 				

	<p>nervous system, myopathies and other pathologies relevant to the central and peripheral nervous system.</p> <p>Psychiatric disorders.</p> <ul style="list-style-type: none"> ○ Anxiety disorders, related food intake disorders, syndromes associated with the use of drugs, delirium, psychosis, dementia, affective disorders, phobias, obsessive-compulsive disorders, post-traumatic stress, psychopathological reactions in situations of illness and death, somatization disorders, dissociative disorders, sleep disorders, impulse control disorders and personality disorders <p>Methods of diagnosis (history, physical examination and laboratory tests) of above diseases and conditions</p> <p>Medical and surgical treatment and prevention of the above described diseases and conditions</p>
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients
Bibliography	<p>Clinical Neurology; Simon, R./Greenberg, D./Aminoff, M.; 7th; 978-0071546447; McGraw-Hill Medical; 2009</p> <p>Harrisons Manual of Clinical Neurology; S.L. Hauser; 978-0071716703; McGraw-Hill; 2012</p> <p>New Oxford Textbook of Psychiatry; Gelder michael G., Lopez Ibor Juan Jose, Andreasen Nancy C.; 978-0199696758; OUP Oxford; 2011</p> <p>DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders; APA; 4th; 978-0890420249; American Psychiatric press; 2000</p> <p>Neurology and Neurosurgery Illustrated; Kenneth W. Lindsay; 5th; 978-0443069574; Churchill Livingstone; 2010</p> <p>Kaplan and Sadock's Concise Textbook of Child Psychiatry; Sadock Benjamin, Sadock Virginia A.; 978-0781793872; Lippincott Williams & Wilkins; 2008</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Duus' Topical Diagnosis in Neurology: Anatomy, Physiology, Signs, Symptoms; M. Baehr, M. Frotscher; 5th; 978-3136128053; THIEME; 2012</p> <p>Adams and Victor's Principles of Neurology; Adams Raymond / Victor, Maurice; 7th; 978-0070674974; McGraw-Hill Publishing Co; 2001</p> <p>Kaplan and Sadock's Concise Textbook of Clinical Psychiatry; Sadock, Benjamin J./Sadock, Virginia; 2nd; 978-0781750332; Lippincott Williams and Wilkins; 2003</p>

	Master Medicine: Psychiatry: A clinical core text with self assessment; Guthrie, E.; 978-0443062766; Churchill Livingstone; 2001	
Assessment	Written exams, Osces practical exam.	
	Mid-Term Examination	30%
	Final Examination	40%
	Assignment / Lab	20%
	Class Participation	10%
	100%	
Language	English	

Course Title	Clinical Bioethics and Legal Medicine				
Course Code	MED428				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	5 th Year / 10 th Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	7 hours	Laboratories / week	0 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The essential values and other elements of the medical profession, including the principal ethics and legal responsibilities. • The application of the principles of social justice to professional practice and the respect to the autonomy, privacy, beliefs and culture of the patient. • The methods and applications of forensic medicine and medical jurisprudence 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Describe the legal fundamentals applied to the practice of the medical profession. • Adhere to and apply the professional values of excellence, altruism, the sense of duty, responsibility, integrity and honesty to the practice of the medical profession. • Identify the need to maintain professional competences. • Demonstrate that their approach to medical professional practice respects the autonomy, the beliefs and culture of the patient. • Discuss the ethical aspects of informed consent and confidentiality. • Demonstrate that they recognize, analyze and can advise on ethical conflicts. • Demonstrate that they analyze the ethical/legal aspects of biomedical research. • Identify, diagnose and give advice on the management of physical and mental injury. • Discuss and analyze the social and legal implications of death. • Describe and identify the normal evolution of the cadaver and the techniques used for postmortem diagnosis. • Identify the basic aspects of medical criminal investigation. • Draw up medical-legal documents. • Demonstrate that they comprehend and describe the fundamentals and principles of bioethics. 				

Prerequisites	None	Co-requisites	None										
Course Content	<ul style="list-style-type: none"> • Legal foundations of the practice of the medical profession. • Ethical aspects of informed consent and confidentiality. • Social and legal implications of death. • Normal evolution of changes in the cadaver and postmortem diagnostic techniques. • Basic aspects of the medical criminal investigation. • Medical-legal documents. • Professional values. Professional competences. • Fundamentals of medical ethics. • Ethical conflicts. 												
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients												
Bibliography	<p>The History of Medicine; Roberto Margotta and Paul Lewis; 978-0600600923; Hamlyn; 2000</p> <p>Introduction to Bioethics; John A Bryant, Linda Baggott La Velle and John Searle; 978-0470021989; Wiley-Blackwell; 2005</p> <p>Legal Aspects of Medicines (Legal Aspects of Health Care); Bridgit Dimond; 2nd; 978-1856424165; Quay Books; 2011</p>												
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>			Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%												
Final Examination	40%												
Assignment / Lab	20%												
Class Participation	10%												
	100%												
Language	English												

Course Title	Clinical Training VII (Pediatrics)				
Course Code	MED510				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	5 th Year / 10 th Semester				
Teacher's Name	Ass. Prof. Adamos Hadjipanayis				
ECTS	12	Lectures / week	4 hours	Laboratories / week	12 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The process of normal growth of children from birth to adolescence and of growth abnormalities • The development of the cognitive and mental functions of children • The clinical manifestations, management and counselling of genetic disorders • The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of children 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Recall the morphological and functional characteristics of the newly-born, the child and the adolescent. • Describe the normal process of growth of the child and the adolescent. • Explain the cognitive, emotional and psychosocial development in childhood and adolescence. • Discuss the fundamentals of nutrition in the child. • Demonstrate that they know the characteristics of the premature newborn and their comprehensive care. • Discuss the fundamentals of diagnosis and genetic counselling. • Identify the most frequently encountered pediatric pathologies. • Diagnose the most frequently encountered pediatric pathologies by obtaining a past clinical history of the child, physical examination of the newly-born, infant, child and adolescent, indications and interpretation of the principal complementary studies used in pediatrics. • Manage the medical-surgical treatment of the most frequently encountered pediatric pathologies. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Normal growth and development of the newly-born, infant, child and adolescent. 				

	<ul style="list-style-type: none"> • Cognitive, emotional and psychosocial development in childhood and adolescence • Fundamentals of child nutrition. • Premature newly-born and its comprehensive care and neonatal care. • Childhood immunizations, prevention of disease and health promotion • Most frequently encountered paediatric pathologies. <ul style="list-style-type: none"> ○ Immune system and infections ○ Disorders of the metabolic, respiratory, circulatory, hematological, digestive, nephro-urological, endocrine, nervous, dermatological & musculoskeletal systems and of the eye and ear; ○ Hematological and solid malignancies; • Methods of diagnosis (history, physical examination and laboratory tests) of the above described diseases and conditions • Medical and surgical treatment and prevention of the above described diseases and conditions 										
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Nelson Textbook of Pediatrics; Richard Behrman / Kliegman, Robert M.; 19th; 978-1437707557; Saunders; 2011</p> <p>Paediatrics and Child Health; Rudolf, M. / Levene, M.; 3rd; 978-1405194747; Wiley-Blackwell; 2011</p> <p>Current Diagnosis and Treatment Pediatrics; Hay W.M., Levin M.J., Sondheimer J.; 978-0071779708; Lange Current Series; 2012</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Clinical Paediatrics and Child Health; Candy, David / Davies, Graham; 978-0702017261; Saunders; 2001</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Clinical Training VIII (Dermatology)				
Course Code	MED520				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	5 th Year / 10 th Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	2 hours	Laboratories / week	6 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of • The skin and dermatological system 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Identify the most frequently encountered skin pathologies. • Diagnose the most frequently encountered skin pathologies. • Manage the medical-surgical treatment of the most frequently encountered skin pathologies. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> ○ Most frequently encountered skin pathologies. <ul style="list-style-type: none"> ○ By obtaining a past clinical history with focus on dermatological pathologies, identification and expertise to describe the principal cutaneous lesions by means of identifying the correct symptomatology (basic lesions), indications and interpretation of the complementary studies used for the diagnosis of dermatological diseases, especially in the anatomopathological study ○ Methods of diagnosis (history, physical examination and laboratory tests) of the above described diseases and conditions ○ Medical and surgical treatment and prevention of the above described diseases and conditions 				
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients				
Bibliography	Andrews' Diseases of the Skin: Clinical Dermatology; James W., Berger T.T, Elston D.; 10th; 978-0721629216; Saunders; 2006				

	<p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Color Atlas and Synopsis of Clinical Dermatology; Fitzpatrick, Thomas / Johnson, Richard; 4th; 978-0071360388; McGraw-Hill; 2001</p> <p>Disorders of Hair Growth: Diagnosis and Treatment; Elise A. Olsen; 2nd; 978-0071364942; McGrawHill; 2003</p>										
<p>Assessment</p>	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
<p>Language</p>	<p>English</p>										

Course Title	Medical Therapeutics				
Course Code	MED530				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	5 th Year / 10 th Semester				
Teacher's Name	Prof. Theodoros Xanthos				
ECTS	6	Lectures / week	4 hours	Laboratories / week	1 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> The methods of administering medical treatments, the safe prescription of pharmaceutical agents and the process of pharmacovigilance 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Prescribe and appropriately administer the principal groups of pharmacological agents. Explain the fundamentals applied in the therapeutic supervision of drugs. Describe the concepts of adherence to treatment, its indications, implications and complications/adverse effects related to administrations. Discuss the current systems of pharmacovigilance. Explain the fundamentals of pharmacoeconomics. Outline the development of procedures used in clinical trials. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> Prescription and administration of the principal pharmacological groups <ul style="list-style-type: none"> Anti-inflammatory-drugs, analgesics, opioids and CNS stimulants, drugs acting on nervous system, anxiolytics and hypnotics, neuroleptics, anti-depressants, anti-epileptics, drugs used in anesthesia. Therapeutic supervision of drugs. Adherence to treatment. Pharmacovigilance and pharmacoeconomics. <ul style="list-style-type: none"> Clinical trials: fundamentals of design, implementation and evaluation of the outcomes 				
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients				

Bibliography	Conn's Current Therapy 2010; Rakel Robert E., Bope Edward T.; 978-1416066422; Saunders; 2010 Therapeutics and Pharamcology for Medical Students; P. Hamilton, D. McCluskey and D. Johnston; 978-1904627678; PasTest; 2006										
Assessment	Written exams, Osces practical exam. <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Symptoms and Interpretation of Complementary Examination Procedures				
Course Code	MED661				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	6 th Year / 11 th Semester				
Teacher's Name	TBA				
ECTS	5	Lectures / week	3 hours	Laboratories / week	1 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> The methods, applications and interpretation of diagnostic techniques 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Accurately assess the risk/benefit and cost/effectiveness ratios of diagnostic procedures. Integrate and correlate the expertise acquired from other study courses to the indications of the various complementary examinations used in medicine: biochemical, hematological, immunological, microbiological, anatomopathological, imaging, electrophysiological and other tests and examinations. Demonstrate that they can integrate and correlate the knowledge acquired from other study courses encompassed in this curriculum to the procedures and methods required to carry out the various diagnostic techniques. Interpret and correlate in an integrated collective fashion the results of various diagnostic tests and demonstrate that they are cognizant in respect of their limitations. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>Relationship between risk/benefit and cost/effectiveness of the diagnostic and therapeutic procedures.</p> <ul style="list-style-type: none"> Integration of knowledge on: <ul style="list-style-type: none"> Indications and limitations of the various complementary examinations. Procedures and means required to carry out diagnostic explorations. Interpretation of the results obtained by the diagnostic tests. 				

Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	Aids to Radiological Differential Diagnosis; Chapman, Stephen; 5th; 978-0702029790; Saunders; 2009 Oxford Handbook of Clinical Diagnosis (Oxford Medical Handbooks); Huw Llewelyn, Hock Aun Ang, Keir E Lewis and Anees Al-Abdullah; 2nd; 978-0199232963; OUP Oxford; 2009 Data Interpretation for Medical Students; Ian Bickle, Paul Hamilton , Ben Stockham; 2nd; 978-1905635771; PasTest; 2012										
Assessment	Written exams, Osces practical exam. <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Professional Traineeship I (Clinical Training IX (Obstetrics and Gynecology))				
Course Code	MED611				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	6 th Year / 11 th Semester				
Teacher's Name	TBA				
ECTS	8	Lectures / week	4 hours	Laboratories / week	6 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The concepts and practices of obstetrics, including pregnancy, birth and puerperium, and contraceptive methods • The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of the gynaecological system 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Discuss the characteristics of pregnancy, birth and puerperium. • Carry out a physical examination of pregnant women and supervision of pregnancy. • Describe the basis of contraception and fertilization methods. • Identify the most frequently encountered gynecological pathologies. • Diagnose the most frequently encountered gynecological pathologies by obtaining a past medical history and carry out a physical examination with focus on gynecological pathologies, to indications and interpretations of the complementary studies used for the diagnosis of gynecological diseases and the changes occurring in pregnancy, laboratory, imaging, anatomopathological tests, etc. • Manage the medical-surgical treatment of the most frequently encountered gynecological pathologies. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Pregnancy, birth and puerperium. • Contraception and fertilization methods. • Most frequently encountered gynecological pathologies 				

	<ul style="list-style-type: none"> ○ Gynecological cancer and tumors of the genital tract, disturbances of the menopause, contraception, adolescent gynecology, inflammatory diseases of the pelvic area, endometriosis, other gynecological diseases, tumors and cancer of the breast. ● Methods of diagnosis (history, physical examination and laboratory tests) of the above described diseases and conditions ● Medical and surgical treatment and prevention of the above described diseases and conditions 										
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Clinical Obstetrics and Gynaecology; Drife, J.; 2nd; 978-0702030697; Saunders; 2009</p> <p>Obstetrics and Gynaecology; Lawrence Impey, Tim Child; 4th; 978-0470655191; Wiley-Blackwell; 2012</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Gynaecology by Ten Teachers; Ash Monga and Dr Stephen P Dobbs; 19th; 978-0340983546; Hodder Arnold; 2011</p> <p>Obstetrics by Ten Teachers; Philip N Baker and Dr Louise Kenny; 19th; 978-0340983539; Hodder Arnold; 2011</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1" style="margin-left: 40px;"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Professional Traineeship II (Clinical Training X (Ophthalmology))				
Course Code	MED621				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	6 th Year / 11 th Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	2 hours	Laboratories / week	6 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of the ophthalmologic system 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Identify the most frequently encountered ophthalmological pathologies Diagnose the most frequently encountered ophthalmological pathologies by obtaining a past clinical history and carrying out physical examination (ocular fundus, visual acuity, campimetry, etc) with focus on ophthalmological pathologies. Manage the medical-surgical treatment of the most frequently encountered ophthalmological pathologies. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> Most frequently encountered ophthalmological pathologies. <ul style="list-style-type: none"> Palpebral and lacrimal pathologies, pathologies of the cornea, the lens, the retina, the sclera, the visual pathways and other related ophthalmological pathologies. Methods of diagnosis (history, physical examination and laboratory tests) of the above described diseases and conditions Medical and surgical treatment and prevention of the above described diseases and conditions 				
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients				

Bibliography	<p>Basic Ophthalmology; Richard A. Harper; 9th; 978-1615251230; American Academy of Ophthalmology; 2010 Ophthalmology: An Illustrated Colour Text; Batterbury, M.; 3rd; 978-0702030598; Churchill Livingstone; 2009</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Atlas of Clinical Ophthalmology; David J. Spalton; 978-0323036566; Elsevier Health Sciences; 2004</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Primary Care				
Course Code	MED631				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	6 th Year / 11 th Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	2 hours	Laboratories / week	8 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The diagnosis, management and prevention of the most common diseases encountered in primary care • The special features of the doctor-patient relationship in primary care • The functions and services provided by primary care 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Discuss the structure and function of Primary Care and its relationship to the various levels of care. • Describe the vital environment of the sick persons and the interaction of education and culture in medical care. • Explain the principal means used to promote health and prevent illness during the different stages of life. • Identify the most frequent reasons claimed for consultation in the community. • Establish an action plan focusing on the individual needs of the patient, his/her family and social environment. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> • Primary care and its relationships with the various levels of care. • Promotion of health and prevention of illness during the various stages of life. • Management of the patient and the healthy person, taking into account their psychological, personal, family, occupational and social circumstances 				

	<ul style="list-style-type: none"> • The family and the interaction of the familial environment with health promotion and the natural history of disease in the community • Community oriented primary care (COPC): health needs assessment and outreach programmes in the catchment area of primary care • Cooperation with other health and welfare services delivering care to the population • Most frequently encountered reasons for consultations in the community. <ul style="list-style-type: none"> ○ Chronic conditions, acute & life threatening conditions, home care 										
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Sloane, Essentials of Family Medicine; Philip D. Sloane, Lisa M. Slatt, Mark H. Ebell and Louis B. Jacques; 6th; 978-1608316557; Lippincott Williams and Wilkins; 2011</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>John Murtagh's General Practice; Murtagh, John; 4th; 978-0074717790; McGraw-Hill; 2007</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1" style="margin-left: 20px;"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Professional Traineeship III Clinical Training XI (Otorhinolaryngology)				
Course Code	MED612				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	TBA				
ECTS	5	Lectures / week	2 hours	Laboratories / week	6 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> The clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases of the Ear, Nose and Throat 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Identify the most frequently encountered pathologies affecting the ear, nose and throat. Diagnose the most frequently encountered pathologies of the ear, nose and throat by obtaining a past clinical history and carrying out physical examinations with focus on the otorrhinolaryngological pathologies, indications and interpretation of the principal complementary studies in otorrhinolaryngology, audiometry, otoscopy, rhinoscopy, etc. Manage the medical-surgical treatment of the most frequently encountered pathologies of the ear, nose and throat. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> Most frequently encountered pathologies of the ear, nose and throat. <ul style="list-style-type: none"> Diseases of external, middle and inner ear, hearing loss, vertigo, tinnitus, facial nerve disorders, inflammations and tumors of the nose, epistaxis, injuries, deformities, inflammatory diseases and neoplastic lesions of the pharynx and larynx , voice disorders and dysphagia Methods of diagnosis (history, physical examination and laboratory tests) of the above described diseases and conditions 				

	<ul style="list-style-type: none"> • Medical and surgical treatment and prevention of the above described diseases and conditions 										
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Oxford Handbook of ENT and Head and Neck Surgery (Oxford Medical Handbooks); Rogan Corbridge and Nicholas Steventon; 2nd; 978-0199550791; OUP Oxford; 2009</p> <p>Current Diagnosis & Treatment Otolaryngology--Head and Neck Surgery; Anil Lalwani; 3rd; 978-0071624398; McGraw-Hill; 2011</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Professional Traineeship IV (Clinical Training XII (ER, Toxicology, Oncology and Palliative Care))				
Course Code	MED622				
Course Type	Compulsory				
Level	Bachelor (1 st Cycle)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	Prof. Theodoros Xanthos & TBA				
ECTS	14	Lectures / week	4 hours	Laboratories / week	12 hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The clinical manifestations, diagnosis, medical and surgical management and prevention of the neoplastic diseases, including palliative care • The management of medical emergencies and acute intoxications 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Identify, diagnose and manage the treatment of oncological diseases. • Identify, diagnose and manage the treatment of the principal intoxications. • Identify, diagnose and manage the treatment of conditions associated with threatening life situations. • To acquire the expertise to diagnose a cardiorespiratory arrest and to carry out the basic techniques for cardiopulmonary resuscitation. To gain knowledge about the techniques for advanced vital support. • Identify the principles and basics of palliative medicine, and manage palliative care cases including basic aspects of home care. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Oncological diseases. <ul style="list-style-type: none"> ○ Cancer of the respiratory, digestive, nervous, endocrine, musculoskeletal, urinary, gynecological systems, the skin, and other systems ○ Leukaemia and other hematologic malignancies. 				

	<ul style="list-style-type: none"> • Toxicology (different toxicological agents, poisoning and its management, environmental pollutants, including pesticides, forensic toxicology). • Medical-surgical emergencies <ul style="list-style-type: none"> ○ Acute emergencies and life-threatening conditions ○ Management of the injured in major accidents and natural disasters • Palliative medicine and treatment of chronic pain • Methods of diagnosis (history, physical examination and laboratory tests) of above diseases and conditions • Medical and surgical treatment and prevention of above diseases and conditions 										
Teaching Methodology	Face-to-face, Lectures, Practical exercises, Quizzes, Case Presentations, simulated patients										
Bibliography	<p>Illustrated Handbook of Toxicology; Reichl, F.X.; 978-3131269218; THIEME; 2010</p> <p>Oxford Handbook of Pain Management; Peter Brook, Tony Pickering and Jayne Connell; 1 edition; 978-0199298143; Oxford Medical Handbooks; 2011</p> <p>Clinical Oncology: Basic Principles and Practice; Dr. Anthony J Neal and Peter J Hoskin; 4th; 978-0340972939; Hodder Arnold; 2009</p> <p>Principles of Critical Care; J.B. Hall, / G.schmidt / L.D.H. Wood; 3rd; 978-0071416405; McGraw-Hill; 2005</p> <p>Intensive Care ICT: An Illustrated Colour Text; Avidan / Barnett / Hopley; 978-0443100604; Churchill Livingstone; 2007</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>The Atlas of Emergency Medicine; Knoop, Kevin; 3rd; 978-0071496186; McGraw-Hill; 2009</p> <p>Tintinalli's Emergency Medicine Manual (includes CD-ROM); Ma O John / Cline, David; 7th; 978-0071484800; McGraw-Hill; 2010</p> <p>Clinical Intensive Care and Acute Medicine; K. Hillman / G. Bishop; 2nd; 978-0521789806; Cambridge University Press; 2004</p>										
Assessment	<p>Written exams, Osces practical exam.</p> <table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment / Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment / Lab	20%	Class Participation	10%		100%
Mid-Term Examination	30%										
Final Examination	40%										
Assignment / Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Medical Humanities and History				
Course Code	MED216				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 4 th Semester				
Teacher's Name	Dr. Nikolas Keramaris				
ECTS	5	Lectures / week	3	Laboratories / week	0
Course Purpose and Objectives	<p>Medical Humanities is concerned with addressing the human side of medicine and as such draws theoretical, critical and practical insights from across the social sciences and the arts to explore the meanings attached to illness, disease, embodiment, disability, health and therapeutic encounters (from both a professional and patient perspective). It embraces matters of ethics, aesthetics, history, representation and reflective practice.</p> <p>History of medicine addresses the changes and developments in Western medicine from the Ancient Greek world to the modern times. The course will discuss the varieties of theory and practice of medicine, the understandings of the body and illness, and the historical contexts in which medicine can be understood in the pre-modern world, including classical Greek and Roman society, medieval Islamic and Western cultures, and Renaissance and early modern periods.</p>				
Learning Outcomes	<p>Upon successful completion of this course, students should be able to:</p> <ul style="list-style-type: none"> • Have gained a basic working knowledge of the 'Medical Humanities' as a broad discipline. • Have gained a knowledge of specific examples of how an engagement with ethics, social history, visual culture, language and literature can inform medical understanding. • Have developed their own critical concerns with the ways in which the humanities are relevant to a wider understanding of medical culture and practice. 				

	<ul style="list-style-type: none"> • Have developed, through reading and discussion, an ability to articulate their own critical interests in the Medical Humanities. • Identify the elements that provide cohesion and configure the current identity of the medical profession as a result of an historical evolutionary process. • Discuss the historic evolution of the concepts of health and illness 		
Prerequisites	NONE	Co-requisites	NONE
Course Content	<p>The course aims to:</p> <ol style="list-style-type: none"> 1. Introduce students to the Medical Humanities as an inter-disciplinary field of study and to a range of relevant critical questions, methods and examples 2. Enable students to engage with established debates in the field in order to develop and articulate their own critical approaches to such matters as the use of medical language, the role of the humanities in medical culture and the multiple-meanings attached to illness, disease, embodiment, disability, health and the therapeutic encounter. 3. introduce students to the continuum of the medical science throughout time 		
Teaching Methodology	Face- to- face		
Bibliography	<p>Evans,H M, Ahlzén,R, Heath,I & Macnaughton,J (2008). Medical Humanities Companion Volume One: Symptom. Oxford: Radcliffe Publishing</p> <p>Ahlzen, R, Evans, H M, Louhiala, P & Puustinen, R (2010). Medical Humanities Companion Volume 2: Diagnosis. Oxford: Radcliffe Publishing.</p> <p>Taylor RB (2015), On the Shoulders of Medicine's Giants: What Today's Clinicians Can Learn from Yesterday's Wisdom, Springer</p>		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Assignment /Lab	20%	
	Class participation	10%	
		100%	
Language	English		

Course Title	Genomics				
Course Code	MED217				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	2 nd Year / 4 th Semester				
Teacher's Name	Professor Anastasis Stephanou				
ECTS	5	Lectures / week	3 hrs	Laboratories / week	0 hrs
Course Purpose and Objectives	<p>This course will enable students an overall understanding of the key genomic technologies and computational approaches that are driving advances in prognostics, diagnostics, and treatment. Students will also be able to have a better understanding for applications to genomics, proteomics, exome and transcriptome sequencing, and clinical research in general. Throughout the course, emphasis will focus on issues surrounding the context of genomics in medicine including: what does a physician need to know? What sorts of questions will s/he likely encounter from patients?</p>				
Learning Outcomes	<p>Upon successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> Analyze the purpose, strengths and limitations of current and emerging genome technologies for clinical and personal applications. Evaluate genomic approaches for risk assessment, and prevention, prognosis and treatment of complex multifactorial disease states. Identify strategies for communicating genetic/genomic risk to patients and families. Discuss characteristics of personalized medicine and its impact on health care. 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>Students will familiarize themselves with the following:</p> <ul style="list-style-type: none"> What real benefits of genomics can be anticipated in the near future in terms of new drugs and treatments. Which strategies to date have been the most successful. How can diagnosis and the diagnostic process be changed today. How do prognostic abilities change. How to analyze clinically relevant genomic data. 				

	<ul style="list-style-type: none"> • What constitutes a genomic clinical trial. • What are the useful features of alternative genomic technologies today and for the near future. • What are the different kinds of genomic informational resources and databases. • How can the drug discovery process make better use of genomic information. 								
Teaching Methodology	Face-to-face								
Bibliography	Introduction to Genomics (2 nd edition) by R.M. Lesk								
Assessment	<table border="1"> <tr> <td>Midterm Exam</td> <td>30</td> </tr> <tr> <td>Final Exam</td> <td>50</td> </tr> <tr> <td>Oral & Class Participation</td> <td>20</td> </tr> <tr> <td>TOTAL</td> <td>100%</td> </tr> </table>	Midterm Exam	30	Final Exam	50	Oral & Class Participation	20	TOTAL	100%
Midterm Exam	30								
Final Exam	50								
Oral & Class Participation	20								
TOTAL	100%								
Language	English								

Course Title	Systems Biology				
Course Code	MED218				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	2th Year / 4th Semester				
Teacher's Name	Professor Ioannis Patrikios / Anastasis Stephanou				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	0 hrs
Course Purpose and Objectives	<p>This course will introduce the systems medicine concept and it will enable students an overall understanding of the key systems biology methods in modeling and analysis of cellular networks, with strong relevance to synthetic biology and the iGEM competition. This course has a special emphasis on (1) biological interaction networks, and (2) genome-level cellular metabolism. Students will learn through lectures and homework, and gain hands-on experience using current software in a PC-based lab setting. (3) Moreover, it will familiarize students the application of systems medicine and holistic therapeutic treatment approach especially for multifactorial diseases Vs reductionism approach. An interdisciplinary presentation of the topics will be emphasized, making the class accessible to students with a background in computer science, biology, chemistry, and physics</p>				
Learning Outcomes	<p>Upon successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> • Know the Systems Medicine concept • Explain basic concepts, models, and statistical measures to characterize the properties of general networks, as well as using the software tool Cytoscape to analyze empirical networks. • Explain basic concepts, principles and methods of metabolic engineering. • Explain the organization and construction process of genome-scale metabolic networks, explain the principles behind constraint-based analysis (especially Flux Balance Analysis), as well as being proficient in the use of the COBRA toolbox in MatLab for the numerical analysis of empirical models. • Holistic approach vs Reductionism as a method of personalized treatment approach for multifactorial diseases 				
Prerequisites	None	Co-requisites	None		
Course Content	Students will familiarize themselves with the following:				

	<ul style="list-style-type: none"> • Systems medicine, as a new concept for holistic treatment approach; personalized especially for multifactorial diseases • Modeling of Biochemical Systems • Specific Biochemical Systems & Model Fitting • Analysis of High-throughput Data • Gene Expression Models • Stochastic Systems and Variability • Network Structures, Dynamics, and Function • Optimality and Evolution 								
Teaching Methodology	Face-to-face								
Bibliography	<i>Systems Biology</i> by Edda Klipp, Wolfram Liebermeister, Christoph Wierling, Axel Kowald, Hans Lehrach, Ralf Herwig (2009, Wiley-Blackwell)								
Assessment	<table> <tr> <td>Midterm Exam</td> <td>30</td> </tr> <tr> <td>Final Exam</td> <td>40</td> </tr> <tr> <td>Oral & Class Participation</td> <td>30</td> </tr> <tr> <td>TOTAL</td> <td>100%</td> </tr> </table>	Midterm Exam	30	Final Exam	40	Oral & Class Participation	30	TOTAL	100%
Midterm Exam	30								
Final Exam	40								
Oral & Class Participation	30								
TOTAL	100%								
Language	English								

Course Title	Healthcare Management				
Course Code	MED601				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	Theodora Zachariadou				
ECTS	6	Lectures / week	3 hours	Laboratories / week	1 hour
Course Purpose and Objectives	<p>Objective: The objective of the course is to familiarize students with:</p> <ul style="list-style-type: none"> • The organization, functions and management of health care systems and the impact of health care in improving the health of populations. • The tools, methods and processes used for strategic planning, decision making and quality assurance / control in healthcare 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Define the role of managers and leaders in healthcare, identify their core competencies and associate these with the structure of healthcare organizations and healthcare systems. • Demonstrate that they comprehend healthcare planning and administration on a global, European, national and regional level. • Demonstrate that they comprehend the economic and social implications that medical practice entails, taking into account valid effectiveness and efficiency criteria. • Describe the principles of Occupational Health. 				
Prerequisites	None	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Health system structure at a global, European, national and regional level. • Planning, programming and assessment of health programs. • Core functions and competencies of leaders and managers in healthcare. • Essentials of health economics. • Principles of quality management, audit and clinical governance. • Managing crisis, stress, time, conflict and change. 				
Teaching Methodology	Face-to-face				
Bibliography	Healthcare Management; Kieran Walshe and Judith Smit; 2 edition; 978-0335243815; Open University Press; 2011				

	Using Theory to Explore Health, Medicine and Society; Peter Kennedy and Carole Kennedy; 978-1847424013; Policy Press; 2010	
Assessment	Mid-Term Examination	20%
	Final Examination	40%
	Assignment /Lab	30%
	Class Participation	10%
Language	English	

Course Title	Clinical Embryology				
Course Code	MED 602				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	Prof. Elpida-Niki Emmanouil-Nikoloussi				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	1 Hour
Course Purpose and Objectives	<p>This course is aiming to acquaint Medical students to a broad and concrete overview of the mechanisms causing major and minor birth defects after drug and environmental causative factors during pregnancy and neonatal life, to types of their prevention and to the clinical problems which arise for their repair and rehabilitation. Genetic Counseling methods and international Guidelines for birth defects prevention and their early diagnosis in pregnancy will be taught. The role of folic acid and healthy and enhanced nutrition before and during pregnancy will be analyzed. Viruses, bacteria, toxic substances, chemicals, endocrine disrupters, drugs, particulate matters and toxic nanoparticles bio-distribution throughout the embryonic/fetal and neonatal body which can have consequences to the developing human organism via their placenta blood barrier permeability will be taught. Incidence of genetic syndromes and epigenetic disturbances will be emphasized. Thus, the course is going to serve as a connective foundation upon which, clinical orientated problems and their prevention and repair in Clinical Embryology and Neonatology in Medical sciences will be based.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Demonstrate an understanding of clinical orientated problems in embryology influencing the developing of the human embryo and of each of its organs and systems. • Illustrate, recognize, identify and describe the normal and abnormal embryonic development in comparison with the clinical problems raised after the influence of causative teratogenic and genetic factors. • Understand the role of Clinical evaluation in Embryology for accurate diagnosis of birth defects. • Understand the role of Clinical Genetic Counseling for birth defects prevention. 				

	<ul style="list-style-type: none"> • Understand the role of Clinical rehabilitation and surgical repair of birth defects. • Understand the role of Networking with diverse types of physicians and clinics for information of birth defects prevention. • Describe and explain diagnostic methods as :the prenatal ultrasound 2D and 3D diagnosis, amniocentesis and other modern prenatal examination methods for diagnostic purposes of birth defects. <p>All the above will acquaint Medical students to demonstrate effective self-assessment skills, communicative and collaborative skills, communication with peers, discussions in small groups with clinicians and presentation of Problem Based Learning and Clinical Discussions in human clinical cases of birth defects.</p> <p>Laboratory skills</p> <ul style="list-style-type: none"> • Describe and explain prenatal diagnostic methods in collaboration with clinicians. • Describe and identify clinical cases of birth defects into the human embryonic body. • Understand the role of Genetic Counselling and Clinical Embryology for accurate diagnosis in diverse diseases demonstrating skills in critical thinking via Problem Based Learning and Clinical Discussions. • Describe and identify stages of embryological and fetal normal and defective differentiation of organs and systems from implantation of the blastocyst to the full term pregnancy. • Identify tissue and organs' normal and defective embryological structure , from 3-D high fidelity embryological models, videos and Computer Assisting Learning-CAL. 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In that regard, students will familiarize themselves with the following Modules:</p> <ul style="list-style-type: none"> • Genetic Counseling for Birth Defects. • Endocrine disrupters and Birth Defects. • Birth Defects caused by drugs, viruses, bacteria, toxic substances and multiple teratogenic environmental causative factors during pregnancy and neonatal life. • Epigenetics and Clinical Embryology. • Congenital Anomalies due to Genetic disorders. Clinical expression of Parental Diseases and Syndromes. • Clinical expression of birth defects at the Craniofacial area. • Clinical expression of birth defects at the Cardiovascular and the Respiratory System. • Clinical expression of birth defects at the Gastrointestinal System. • Clinical expression of birth defects at the Renal System. • Clinical expression of birth defects at the Male and Female Reproductive System. 		

	<ul style="list-style-type: none"> • Clinical expression of birth defects at the Neural System and the Sensory organs. • Clinical expression of birth defects at the Skin, Muscular and Skeletal System and at the Upper and Lower extremities. • Clinical expression of birth defects at the Umbilical Cord and the Placenta. • Clinical and modern imaging modalities' methods for prenatal diagnosis of Birth defects. <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observations of normal and pathological clinical embryonic cases from the systems described. • Drawing methods for understanding the clinical expression of birth defects of the organs and systems described above and observations of various types of high fidelity 3D embryological models • Clinical Seminars and Discussions of pathological clinical cases of birth defects in comparison with normal clinical appearance from the organs and systems described. • Clinical Seminars and Discussions with videos for clinical cases of congenital malformations and birth defects from the modules described using videos and Computer Assisting Learning-CAL.
Teaching Methodology	Face- to- face
Bibliography	<p>The Developing Human: Clinically Oriented Embryology, 10e 10th Edition by: Keith L. Moore BA MSc PhD DSc FIAC FRSM FAAA , T.V.N.Persaud MD PhD DSc FRCPath (Lond.) FAAA, Mark G. Torchia MSc PhD 2016, 10th EDITION-INTERNATIONAL EDITION Copyright 2016 By ELSEVIER Inc 1600 JOHN F. KENNEDY Blvd Ste 1800 Philadelphia, PA 19103-2899 ISBN-13: 978-0-32331338-4 ISBN-10: 978-0-32331347-6</p> <p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Textbook of Clinical Embryology Edited by Kevin Coward and Dagan Wells Cambridge University Press 2013 1st Edition University Printing House Cambridge CB2 8BS United Kingdom Print Publication Year:2013 Online Publication Date: November 2013 Online ISBN:9781139192736 Paperback ISBN:9780521166409</p>

	<p>Before we are Born. Essentials of Embryology and Birth Defects. Keith L. Moore, T.V.N. Persaud, Mark G. Torcha. Philadelphia, Elsevier Saunders Edition, 8th Edition 2013, ISBN 978-1-4377-2001-3.</p> <p>Langman's Medical Embryology. T. W. Sadler. Wolters Kluwer Health/Lippincott Williams & Wilkinson, Philadelphia, Baltimore, New York, London, Buenos Aires, Hong Kong, Sydney, Tokyo. 12th Edition- International Edition, 2012. ISBN 978-1-4511-4451-1.</p>												
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>10%</td> </tr> <tr> <td>Clinical problems(team effort)</td> <td>10%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab	10%	Clinical problems(team effort)	10%	Class participation	10%		100%
Mid-Term Examination	30%												
Final Examination	40%												
Assignment /Lab	10%												
Clinical problems(team effort)	10%												
Class participation	10%												
	100%												
Language	English												

Course Title	Rehabilitation Medicine				
Course Code	MED603				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	Prof. Nicolas Christodoulou				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	1 Hour
Course Purpose and Objectives	This course is intended to give the student a broad overview of Rehabilitation Medicine. It is designed to acquaint students with the fundamental terms, concepts, and principles used in Rehabilitation Medicine, especially for disability and to serve as a foundation upon which the Rehabilitation plans for individual patients can be applied.				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Describe the concepts of functioning, disability and health (the WHO-ICF). • Understand the epidemiology of disability, the principles of functional recovery and motor learning. • Understand the disabling consequences of injury and diseases in the adult age, concerning acute and progressive musculoskeletal and neurological disorders, balance troubles in the elderly and the risk for falls, chronic obstructive pulmonary diseases, heart diseases and cancer diseases. • Describe the disabling consequences of injury and diseases in the developmental age (e.g. scoliosis, congenital disorders, cerebral palsy). • Understand essential methods of assessing patient's needs, including electromyography and diagnostic ultrasounds. • Define the discharge planning and the concept of the interdisciplinary care. • Describe the effectiveness of the several rehabilitation interventions (e.g. medications, exercise, physical modalities, manual therapy, cognitive rehabilitation, prosthetics and orthotics). • Understand the ethical implications of working with people with disabilities, including the role of physician as advocate and the guardianship responsibilities, the economic implications of disability management and medicolegal issues. <p>Laboratory skills</p> <ul style="list-style-type: none"> • Explain the use of the International Classification of Functioning, Disability and Health (ICF) 				

	<ul style="list-style-type: none"> • Use of several assessment tools. • Analyse clinical cases and setting up the rehabilitation plan for possibly disabling disorders of the musculoskeletal, nervous and cardiopulmonary system • Visit Physical and Rehabilitation Medicine Departments for developing clinical awareness of the main areas presented during the training lectures. 		
Prerequisites	None	Co-requisites	None
Course Content	<p>The students will familiarize themselves with:</p> <ul style="list-style-type: none"> • The use of the International Classification of functionality, disability and health (ICF) of the WHO. • The use of several assessment tools in Rehabilitation Medicine. • The design of a Rehabilitation plan for acute musculoskeletal disorders of adult age. • The design of a Rehabilitation plan for acute nervous system disorders of adult age. • The design of a Rehabilitation plan for acute cardiopulmonary disorders of adult age. • The design of a Rehabilitation plan for progressive musculoskeletal disorders. • The design of a Rehabilitation plan for progressive nervous system disorders. • The design of a Rehabilitation plan for progressive cardiopulmonary disorders. • The design of a Rehabilitation plan for disorders in the developmental age (scoliosis, congenital disorders, cerebral palsy etc). • The design of a Rehabilitation plan for injuries or disorders which will need the use of prosthesis. 		
Teaching Methodology	Face-to-face		
Bibliography	<ul style="list-style-type: none"> • DeLisa's PHYSICAL MEDICINE AND REHABILITATION – PRINCIPLES & PRACTICE 5th Edition, 2009. ISBN-13: 978-1-4511-0911-5 & ISBN-10: 1-4511-0911-3. • PHYSICAL AGENTS IN REHABILITATION: From Research to Practice. Cameron M; 2nd Edition, 2009. ISBN-13: 978-1-4160-3257-1 & ISBN-10: 1-4160-3257-1. • ASSESSMENT IN PHYSICAL MEDICINE AND REHABILITATION: Views and Perspectives. Franchignoni F, Barat M; 1st Edition, 2004. Free eBook. Can be downloaded from www.euro-prm.org 		

	<p>ISBN: 88-7963-180-2.</p> <ul style="list-style-type: none"> • RESEARCH ISSUES IN PHYSICAL AND REHABILITATION MEDICINE. Franchignoni F et al; 1st Edition, 2010. Free eBook. Can be downloaded from www.euro-prm.org ISBN: 978-88-7963-256-0. • THE FIELD OF COMPETENCE OF PHYSICAL AND REHABILITATION MEDICINE PHYSICIANS – Part One. Christodoulou N et al; 1st Edition, 2014. Free eBook. Can be downloaded from www.euro-prm.org . ISBN 978-9963-2061-2-4. 		
Assessment	Mid-Term Examination	30%	
	Final Examination	40%	
	Assignment /Lab	20%	
	Class participation	10%	
		100%	
Language	English		

Course Title	Research Methodology and Scientific Writing				
Course Code	MED604				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	Professors A Stephanou, I Patrikios & G Petrikos				
ECTS	6	Lectures / week	3 hrs	Laboratories / week	1 hr
Course Purpose and Objectives	<p>This is a basic introductory course in research methodology that will also include statistical analyses and covers a comprehensive range of topics for students that will allow them to apply quantitative/qualitative research using a critical thinking approach. Moreover, examples of clinical trial studies, protocols and international guidelines for that purposes will also be discussed. This is a theory-based course along with exercising on research proposition and with plenty of opportunities to apply the concepts via practical and interactive activities integrated throughout the course.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to</p> <ul style="list-style-type: none"> • Analyze clinical data and be able to discuss and interpretate as a research team in a seminal manner • The use of complex research data and use statistical anlysis to evaluate results • Identify ethical matters on the use of animal and human samples for research • Clinical Trials and protocols • Formats and guidelines 				
Prerequisites	None	Co-requisites	None		
Course Content	<p>Students will familiarize themselves with the following:</p> <ol style="list-style-type: none"> 1. Introduction to quantitative research 2. Research question development 3. Study design, sampling and confounding 4. Types of data and displays of data and results 5. Summarising numeric and categorical data 				

	<p>6. Numeric and categorical differences between groups</p> <p>7. Hypothesis testing and confidence intervals and p-values</p> <p>9. Parametric statistical tests and Non-Parametric tests</p> <p>10 Reliability and Validity of research data\</p> <p>11 clinical trials/protocols/guidlines</p>						
Teaching Methodology	Face-to-face						
Bibliography	<p>Research Methods and Statistics: A Critical Thinking Approach 4th Edition</p> <p>by Sherri L. Jackson</p>						
Assessment	<table> <tr> <td>Lab-based Project.</td> <td>60</td> </tr> <tr> <td>Oral & Class Participation</td> <td>40</td> </tr> <tr> <td>TOTAL</td> <td>100%</td> </tr> </table>	Lab-based Project.	60	Oral & Class Participation	40	TOTAL	100%
Lab-based Project.	60						
Oral & Class Participation	40						
TOTAL	100%						
Language	English						

Course Title	Maxillofacial Surgery				
Course Code	MED605				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	Associate Professor Georgios Pantelas				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	1 Hours
Course Purpose and Objectives	<p>Course Purpose:</p> <p>The course purpose is to enable the student for early and expedient diagnostics of pathological changes on the face, jaws, oral cavity and the neck. Basic diagnostic procedures together with principles of treatment will be presented. To explain the first aid and basic principles of treatment in maxillofacial injuries</p> <p>Objective:</p> <p>The objective of the course is to familiarize students with facial injuries, head and neck cancers, salivary gland diseases, facial disproportion, facial pain, temporomandibular joint (TMJ) disorders, cysts and tumours of the jaws as well as numerous problems affecting the oral mucosa such as mouth ulcers and infections and to enable the student to acquire knowledge and skills necessary of treating basic maxillofacial problems</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Explain the basic principles of maxillofacial surgery • Define the pathophysiology of maxillofacial disorders • Assess a patient presenting either acutely or in the out-patient clinic • Formulate a differential diagnosis and an investigation and management plan • Treat the patient appropriately up to and including basic operative intervention if appropriate • Describe the major postoperative complications • Communicate the above information at the required level to patients/carers/other team members 				

Prerequisites	None	Co-requisites	None
Course Content	<ul style="list-style-type: none"> • Maxillofacial Trauma • Pathologic lesions of the head and neck • Correction of dentofacial deformities • Maxillofacial Reconstruction after tumour surgery • Temporomandibular joint problems • Dentoalveolar surgery • Ambulatory general anesthesia and deep sedation • Cleft lip and palate repair • Management of odontogenic infections • Management of facial pain • Facial aesthetic surgery • Coding and nomenclature 		
Teaching Methodology	Face to Face		
Bibliography	<p>Contemporary Oral and Maxillofacial Surgery, 6th Edition 2014 By James R. Hupp, DMD, MD, JD, MBA, FACS, FACD, FICD, Myron R. Tucker, DDS and Edward Ellis, III, DDS, MS ISBN: 978-0-323-09177-0</p> <p>Peterson's Principles of Oral and Maxillofacial Surgery, 3rd Edition 2014 Author : Michael Miloro, G. E. Ghali, Peter E. Larsen, Peter D. Waite ISBN-13 978-1607951117</p> <p>Atlas of Oral and Maxillofacial Surgery 1st Edition 2015 Authors: Paul Tiwana Deepak Kademani Print ISBN 9781455753284 Electronic ISBN 9781455753277</p> <p>Clinical Review of Oral and Maxillofacial Surgery 2nd Edition 2013 A Case-based Approach Print ISBN 9780323171267 By Shahrokh C. Bagheri, DMD, MD and Chris Jo, DMD Electronic ISBN 9780323171298</p>		

Assessment	<table border="1"> <tr> <td>Midterm Exam</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Midterm Exam	30%	Final Examination	40%	Assignment /Lab	20%	Class Participation	10%		100%
Midterm Exam	30%										
Final Examination	40%										
Assignment /Lab	20%										
Class Participation	10%										
	100%										
Language	English										

Course Title	Interventional Radiology				
Course Code	MED606				
Course Type	Major Elective				
Level	Doctor of Medicine (MD)				
Year / Semester	6 th Year / 12 th Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	3 hours	Laboratories / week	1 hour
Course Purpose and Objectives	<p>Objective: Modern imaging modalities (CT, MRI, Ultrasound, PET/CT and x-rays) have become the mainstay of diagnosis. In addition, these modalities offer guidance for novel minimally-invasive treatment options. The objective of this course is to provide an introductory but comprehensive review of the imaging findings of the most common anatomic pathologies in an organ based approach and describe the minimally-invasive treatment options.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Define the basic biophysics of imaging modalities (MRI, CT, Ultrasound, PET/CT and X-ray systems), as they apply to every-day clinical practice. • Recognize and describe the relevant imaging findings, formulate a differential diagnosis and specify an investigational approach towards the final diagnosis. • Describe the diagnosis, epidemiology, pathophysiology, and treatment options of each disease covered. • Describe the novel, minimally-invasive treatment options available for each disease. 				
Prerequisites	MED123, MED124	Co-requisites	None		
Course Content	<p>The course will begin with an introduction to the fundamentals of imaging physics, and will include references to plain xray films, computed tomography, magnetic resonance imaging, ultrasound and nuclear imaging. Emphasis will be given to aspects that will enable the students to improve their image interpretation skills.</p> <p>The course will continue with a series of topics during which the normal anatomy/physiology will be presented. Relevant pathophysiology will then be taught to the students, followed by presentation of the available minimally invasive treatment option, as well as comparison with traditional treatment options.</p> <p>Topics will include:</p>				

	<p>a. Liver cancer. During this section we shall present normal hepatic anatomy and function, the pathophysiology of hepatocellular carcinoma and the option of transarterial chemoembolization.</p> <p>b. Gastrointestinal hemorrhage. We shall review the causes of GI hemorrhage, present the medical, surgical and minimally invasive options to address such hemorrhage and showcase the tools of the trade (catheters, coils, microspheres etc)</p> <p>c. Liver cirrhosis: The students will learn the pathophysiology of liver cirrhosis, its consequences (hepatocellular carcinoma, portal hypertension) and treatment options for the latter (i.e. TIPSS)</p> <p>A similar structure will followed for other topics and will include aortic/arterial disease, cerebrovascular disease, renal cancer, hepaticopancreatico-biliary disease and other specialty interventions.</p> <p>In addition to the above, the students will be given a basic introduction to medical research and relevant statistical methodology; they will develop the basic critical skill of judging scientific papers and present a paper of their choice.</p>								
Teaching Methodology	Face-to-face								
Bibliography	<p>Medical Imaging of Normal and Pathologic Anatomy Joel Vilensky, Edward Weber, Thomas Serosi and Stephen Carmichael Pages: 192 Trim Size: 152 X 229 mm Imprint: Saunders ISBN: 9781437706345 Copyright: 2011 (http://www.eu.elsevierhealth.com/product.jsp?isbn=9781437706345&sgCountry=CY&isbn=9781437706345)</p>								
Assessment	<table> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation</td> <td>10%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab	20%	Class Participation	10%
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