



UNIVERSITY OF  
**PATRAS**  
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

## **UNIVERSITY OF PATRAS FACULTY OF MEDICINE**

### **CLINICAL TRAINING MANUAL**

**February 2023**

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## Introduction

Clinical training at University of Patras (UPatras), Faculty of Medicine is compulsory for all students of the Faculty of Medicine and takes place primarily during years 5 to 6 of medical studies. It acts as the final step in the process of integration of medical knowledge, a key aspect of our Curriculum, adopted in 2002.

The **Clinical Training Manual** serves as a reference guide for training in the various clinical departments and presents how academic clinical training activities are provided at UPatras. Its content is based on the experience of more than 25 years application of an innovative approach to medical education, i.e. the work of Prof D. Bonikos and other Faculty members of the time, which introduced the concepts of horizontal and vertical integration of medical knowledge and skills. Best practices from prestigious Schools of Medicine around the world were also taken into account to form the present text.

## Mission, Vision and Values

The training at the Faculty of Medicine of the University of Patras aims to provide comprehensive, scientific, and ethical education to healthcare professionals based on the timeless Hippocratic principle of respecting the patient, who is the ultimate recipient of the quality of medical education. The Faculty of Medicine of the University of Patras aspires to impart to the student, above all, the ethical values that govern the practice of medicine and to provide them with the necessary scientific knowledge to meet the demands of the constantly evolving and challenging environment of Medical Science. Additionally, its purpose is to instill an academic mindset and provide the opportunity for anyone interested to acquire the knowledge needed to enter the field of Academic Medicine as a researcher and educator.

To achieve these, the undergraduate program has incorporated educational processes that encourage active learning, critical thinking, clinical experience acquisition, as well as an approach to fundamental concepts of modern biotechnology. These general objectives are further specialized into the following ten points, concerning the **skills and qualities** that the graduate of the Medical Department of the University of Patras must have:

- Understanding that medical practice requires scientific knowledge on one hand, and a humanitarian approach to patient care on the other.
- Adherence to high ethical and academic standards in medical practice.
- Serious and in-depth knowledge of the structure, function, and development of the human body, spanning various levels of analysis from molecular to behavioral.
- Serious and in-depth understanding of disease etiology and pathogenesis mechanisms and their significance in disease manifestation, alongside solid knowledge of pharmacological foundations of therapy.
- Ability to obtain a thorough medical history, perform a comprehensive physical examination, prioritize and solve problems recognized through these processes. Excellent knowledge of diseases posing immediate life-threatening risks to patients, common diseases, as well as rare conditions. Awareness of the limits of one's knowledge and the need for assistance when necessary.
- Understanding the impact of the environment on health and the medical profession's responsibility for disease prevention, providing knowledge to propose effective approaches to problems related to occupational diseases, behavioral disorders, and broader social health issues in our country.

- Awareness that medicine requires continuous education and the ability to self-learn and evaluate personal performance using appropriate sources and methods. Continuous improvement of healthcare provision through learning and integrating innovative diagnostic and therapeutic practices.
- Ability to function efficiently as a member of a clinical or research team, in a variety of service delivery settings, from community clinics to university hospitals.
- Interest in basic and applied research, and the fundamental knowledge enabling engagement with it when desired.
- Finally, recognition of the physician's high responsibility to society as a whole and to the state.

The **core values** of the UPatras Faculty of Medicine are:

- **Excellence:** Strive for the highest standards in education, research, and patient care, fostering a culture of continuous improvement and innovation.
- **Integrity:** Uphold ethical principles, honesty, and transparency in all professional and academic endeavors, ensuring trustworthiness and accountability.
- **Compassion:** Demonstrate empathy and understanding in patient care, promoting a supportive and caring environment for patients, families, and colleagues.
- **Collaboration:** Foster teamwork and interprofessional cooperation, recognizing the value of diverse approaches and skills in enhancing patient outcomes and advancing medical knowledge.
- **Respect:** Treat all individuals with dignity, kindness, and consideration, embracing diversity and promoting inclusivity within the medical community.
- **Lifelong Learning:** Commit to ongoing professional development and the pursuit of knowledge, staying current with advancements in medical science and practice.
- **Patient-Centered Care:** Prioritize the needs and well-being of patients, ensuring that care is personalized, holistic, and respectful of patients' values and preferences.
- **Social Responsibility:** Advocate for public health, equity, and access to healthcare, addressing social determinants of health and contributing to the well-being of the broader community.

These core values guide the school's mission and shape the educational experience, ensuring that graduates are not only skilled clinicians but also ethical, compassionate, and socially responsible healthcare professionals.

## UPatras Medical Students Clinical Training

Clinical Training of medical students is the cornerstone of our medical curriculum and is performed in the Patras University Hospital, with a full deployment of clinical activities. During their clinical training, medical students of UPatras are exposed to a great diversity of medical cases and are given supervised access to the extended diagnostic and therapeutic infrastructure of a University Hospital. Apart from being trained and integrated into multi-disciplinary teams through their interaction with Faculty members, residents and Hospital staff, our students gain experience in the daily routine of a large healthcare site.

Students are divided into small groups for their rotations, which can further fragment within departments. They are expected to be on duty during the hospital workday from Monday to Friday. On-call duty during evenings, weekends, and holidays might be required for acquiring the necessary experience as outlined in the Clinical Logbook. During their presence in the University Hospital, students have extensive contact with patients, where they gather medical histories, conduct examinations,

suggest diagnostic and treatment strategies, document their observations, present cases, perform minor medical procedures under supervision, attend lectures and conferences, join rounds with peers and instructors, maintain patient logs, and extensively study their patients' diseases. During their interaction with patients, they are constantly under the supervision of clinical instructors, either Hospital medical staff or medical faculty members.

To ensure exposure to both common and complex cases, students:

- Review daily and weekly patient assignments
- Engage in shadowing residents
- Rotate through inpatient, outpatient, special, and emergency departments

During their clinical training, students are exposed to as many clinical situations as possible and take – under the supervision of their clinical instructors– part in the entire patient management process, from acquisition of medical history and physical examination, through evaluation of laboratory and imaging findings, setting and pursuing differential diagnosis, contemplating about further diagnostic and therapeutic choices, to presenting the case during clinical rounds, updating the daily report, and assisting in the preparation of discharge documentations.

Each student trained in a clinical department is given a paper **logbook** that is used for documenting the clinical experience he/she gets during their training. The logbook is initially issued by the corresponding clinical department and every clinical procedure they perform is documented in it, with the corresponding date and signature of the clinical supervisor. After the completion of the clinical training, the logbooks are returned by the students to the clinical department for evaluation of their completeness (both in terms of content and number of absences) by the Head of the clinical department.

The Logbook consists of the following sections:

### ***Clinical skills***

These include medical history acquisition and physical examination of various systems. Depending on the particular clinical department, students are expected to be competent in the use of specific diagnostic methods and apparatus (e.g. Doppler device in the Dept. of Vascular Surgery). Students are exposed to common health problems but also gain experience by encountering more complex clinical situations.

### ***Case recording***

The logbook contains a list of indicative common or less-common clinical cases. The students are expected to be exposed to a minimum number of such cases, as evaluated by the training supervisor of each student. For every case, an 'Incident Report Form' is filled out, containing the clinical signs and symptoms, laboratory test results, disease course, as well as diagnosis and final outcome.

### ***Medical operations***

All students are expected to perform a minimum number of repetitions of each medical operation according to a list provided by the specific clinical department. The training supervisor fills out the date of the particular operation and signs the corresponding entry.

## **Integration of knowledge in the UPatras Curriculum**

The innovative six-year curriculum at the Faculty of Medicine, University of Patras is fully integrated both horizontally and vertically. This has been a major curriculum novelty of the University of Patras, Faculty of Medicine, initially implemented in 2002.

In our curriculum, **horizontal integration** seamlessly combines various disciplines within each module. This approach ensures that subjects such as Anatomy, Histology, Embryology, Physiology, and Biochemistry are taught together in a cohesive, systems-based framework. This interdisciplinary method

provides a comprehensive understanding of the body's normal structure and function, and fosters the connections between these foundational sciences to enhance learning and retention. **Vertical integration** bridges the divide between basic sciences and clinical practice from the earliest stages of medical education. By introducing clinical skills, clinical reasoning, and professional practice alongside basic science education, students learn to apply foundational knowledge in real-world clinical contexts. This approach emphasizes the continuous application of scientific principles to clinical scenarios, reinforcing the relevance and significance of basic sciences in diagnosing and treating patients.

Medical education lasts for six years (twelve semesters) and is conducted at two levels: theoretical and practical. The theoretical teaching takes place in the first four years (eight semesters). The teaching of core courses begins with the study of basic (preclinical) branches of science in the 1st and 2nd years, as well as an introduction to clinical medicine through the course of clinical skills. The courses in the 2nd and 3rd years serve as the bridge between basic sciences and clinical medicine, focusing on the pathogenesis and nature of various diseases, as well as the study of anatomical, histological, and functional alterations observed in these diseases. Although these years emphasize the theoretical training of students in terms of physiological and pathological structure and function, efforts are made to integrate theoretical knowledge with clinical practice through the resolution of simple clinical problems and discussions in small student groups (tutorials).

Next is the integrated teaching of systems during the 6th and 7th semesters, which unifies the knowledge of basic sciences with clinical medicine through the teaching of pathophysiological mechanisms, clinical manifestations, and therapeutic interventions for diseases (progressively structured knowledge).

Clinical Training in the 5th and 6th years medical education integration takes place, by applying knowledge and skills into clinical practice. It is almost exclusively hospital-based training. The active participation of students in the real conditions of daily medical practice within hospitals as well as in outpatient clinics, and their involvement in the hospital's daily duty, constitute their best preparation for future medical practice and, generally, their scientific and social development. This also enhances their understanding of the pivotal role of the medical profession for the community, through familiarity with the range of activities from primary to tertiary health care.

## Objectives

The **outcome objectives** of the Curriculum, following the final knowledge integration through clinical training are presented below.

With regard to Medical Knowledge:

- **Integration of Basic and Clinical Sciences:** Integrate knowledge from basic sciences with clinical practice, using case-based learning and clinical correlations to understand the clinical significance of foundational concepts and to foster clinical reasoning and decision-making skills.
- **Clinical Diagnosis and Problem Solving:** Develop the ability to apply basic science knowledge to clinical scenarios, including the use of diagnostic tests, interpretation of laboratory results, and formulation of differential diagnoses.
- **Pathophysiology of Common Diseases:** Learn the underlying pathophysiological mechanisms of common diseases affecting various organ systems, such as cardiovascular diseases, respiratory disorders, gastrointestinal conditions, and neurological disorders.
- **Foundational Concepts of Cell and Molecular Biology:** Understand the structure and function of cells and how these are foundational to human physiology and disease.
- **Biochemical Pathways and Metabolism:** Comprehend the major biochemical pathways, including metabolic processes like glycolysis, Krebs cycle, and oxidative phosphorylation, and how metabolic abnormalities contribute to diseases such as diabetes and metabolic syndrome.

- **Human Anatomy and Structural Organization:** Master the gross and microscopic anatomy of the human body, including the relationships between different organs and systems, and their relevance to surgical procedures and clinical examinations.
- **Physiological Mechanisms and Homeostasis:** Understand the physiological principles governing body functions, including mechanisms of homeostasis, neural and hormonal regulation, and the integration of organ systems to maintain health.
- **Pharmacology and Therapeutic Principles:** Acquire knowledge of pharmacodynamics, pharmacokinetics, and the mechanisms of action of major drug classes, along with principles of rational prescribing, adverse drug reactions, and drug interactions.
- **Microbiology and Infectious Diseases:** Understand the biology of pathogens, mechanisms of infection and immunity, and the clinical presentation, diagnosis, and treatment of common infectious diseases.
- **Genetics and Genomics in Medicine:** Grasp the principles of medical genetics and genomics, including the role of genetic variation in health and disease, genetic testing, and personalized medicine.

With regard to Clinical Skills:

- **Patient History Acquisition:** Skillfully gather a comprehensive medical history from patients, including main complaints, history of present illness, past medical, family and social history, and examination of systems.
- **Physical Examination:** Conduct a thorough and systematic physical examination, using appropriate techniques to assess various body systems.
- **Clinical Reasoning and Differential Diagnosis:** Analyze patient information to develop a differential diagnosis and prioritize potential conditions based on likelihood and severity.
- **Patient Communication:** Effectively communicate with patients, including delivering bad news, providing education, and obtaining informed consent, ensuring empathy and clarity.
- **Interprofessional Collaboration:** Work collaboratively with other healthcare professionals, including nurses, pharmacists, and specialists, to provide comprehensive patient care.
- **Basic Life Support (BLS):** Perform cardiopulmonary resuscitation (CPR) and use an automated external defibrillator (AED) in emergency situations.
- **Advanced Cardiovascular Life Support (ACLS):** Manage advanced cardiac emergencies, including arrhythmias and cardiac arrest, using ACLS protocols and pharmacological interventions.
- **Procedural Skills:** Perform common medical procedures such as venipuncture, IV catheter insertion, arterial blood gas sampling, and urinary catheterization.
- **Wound Care and Suturing:** Assess, clean, and suture wounds, as well as manage wound infections and dressing changes.
- **Interpretation of Diagnostic Tests:** Interpret results from laboratory tests, imaging studies (e.g., Xrays, CT scans, MRIs), and electrocardiograms (ECGs).
- **Prescription Writing and Medication Management:** Prescribe medications accurately, considering indications, contraindications, side effects, and potential drug interactions.
- **Infection Control Practices:** Implement and adhere to infection control protocols to prevent infections associated with hospitalization, including hand hygiene and use of personal protective equipment.
- **Ethical and Legal Knowledge:** Apply ethical principles and legal standards in clinical practice, including issues related to patient autonomy, confidentiality, and informed consent.
- **Pain Management:** Assess and manage acute and chronic pain using pharmacological and nonpharmacological methods.



- **Chronic Disease Management:** Develop and implement care plans for patients with chronic conditions such as diabetes, hypertension, and asthma.
- **Mental Health Assessment:** Recognize and manage common mental health conditions, such as anxiety, depression, as well as substance abuse, and make appropriate referrals.
- **Health Promotion and Disease Prevention:** Educate patients on lifestyle modifications, vaccination schedules, and preventive measures to promote health and prevent disease.
- **Documentation and Medical Record Keeping:** Accurately document patient encounters, treatment plans, and clinical decisions in medical records, ensuring clarity and completeness.
- **Professionalism and Reflective Practice:** Demonstrate professionalism in interactions with patients and colleagues, and engage in reflective practice to continually improve clinical skills and knowledge.

With regard to Professional Behaviour:

- **Empathy:** Show understanding and compassion towards patients' feelings, experiences, and perspectives, fostering a therapeutic patient-provider relationship.
- **Integrity:** Adhere to ethical principles, maintain honesty in all professional interactions, and demonstrate moral and ethical behavior at all times.
- **Respect for Others:** Treat patients, families, colleagues, and other healthcare professionals with decency, kindness, and empathy, regardless of their background or circumstances.
- **Accountability:** Take responsibility for one's actions and decisions, and be willing to admit and learn from mistakes to improve patient care.
- **Confidentiality:** Protect patient privacy by maintaining the confidentiality of patient information and adhering to legal and ethical guidelines.
- **Communication Skills:** Engage in clear, effective, and respectful communication with patients, families, and healthcare team members, both verbally and in writing.
- **Teamwork and Collaboration:** Work cooperatively with other healthcare professionals to provide high-quality patient care, recognizing the value of diverse perspectives and skills.
- **Cultural Competence:** Understand, respect, and address cultural differences in patient care, ensuring that care is equitable and tailored to the needs of diverse populations.
- **Professional Boundaries:** Maintain appropriate boundaries with patients and colleagues, avoiding relationships or behaviors that could compromise professional judgment or objectivity.
- **Time Management:** Efficiently prioritize tasks and manage time, while keeping balance between clinical responsibilities and personal well-being.
- **Adaptability and Flexibility:** Adjust to changing circumstances and new information, demonstrating resilience and the ability to function effectively under pressure.
- **Lifelong Learning:** Commit to continuous professional development and staying current with medical knowledge, guidelines, and best practices.
- **Ethical Decision Making:** Make clinical decisions based on ethical principles, considering the best interests of patients and the potential consequences of actions.
- **Advocacy:** Advocate for patients' needs and well-being, ensuring that they receive appropriate care and support, and addressing social determinants of health.
- **Professional Demeanor:** Present oneself in a manner that reflects positively on the medical profession, including appropriate attire, demeanor, and behavior in all professional settings.

## UPatras Clinical Training Clerkships

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

- [Internal Medicine \(Clinical Training - Cardiology/Nephrology\)](#)
- [Neurology \(Clinical Training - Neurosurgery\)](#)
- [Obstetrics & Gynaecology](#)
- [Paediatrics](#)
- [Psychology \(Clinical Training\)](#)
- [Surgery \(Clinical Training I\)](#)

### Internal Medicine (Clinical Training - Cardiology/Nephrology)

Semester 9th & 10th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

#### Teachers

- GOUMENOS DIMITRIS (Professor)
- THOMOPOULOS KONSTANTINOS (Professor)
- LIOSSIS STAMATIS-NICK (Professor)
- SPIRIDONIDIS ALEXANDROS (Professor)
- HABEOS IOANNIS (Professor)
- MOUZAKI ATHANASIA (Professor)
- NIKOLOPOULOU VASILIKI (Professor)
- DAVLOUROS PERIKLIS (Professor)
- MARANGOS MARKOS (Professor)
- MAKATSORIS THOMAS (Associate Professor)
- SOLOMOU-LIOSI ELENA (Associate Professor)
- CHEILADAKIS JOHN (Associate Professor)
- DAOUSIS DIMITRIOS (Associate Professor)
- ASSIMAKOPOULOS STELIOS (Associate Professor)
- TRIANTOS CHRISTOS (Associate Professor)
- KARKOULIAS KIRIAKOS (Assistant Professor)

#### Description

The aim of the course is to educate the students of the 5th year in the conduct of clinical practice and acquire the necessary knowledge, skills and attitudes needed in postgraduate medical practice.

Students are distributed to the pathological sections according to the program of the Secretariat of the Internal Medicine Department under the responsibility of faculty members who have been determined. The main objective is to train the student of the 5th year to take a medical history and be able to make proper physical examination. The student must be familiar with the concept of hospitalization cause, of the disease and medical history and of the conduct of a detailed clinical examination. As has become clear from the previous years, a lot of practice is needed in the approach of the patients and their problems but

also in the physical examination. The techniques and skills needed for a proper clinical examination can only be obtained with clinical practice. Therefore, the students are given the opportunity for the above, as they may be repeated even in the same patient on a daily basis. Most health problems can be solved by careful medical history taking and physical examination. If there is any problem, the student can request the help of the doctors of the clinic. Students are, also exposed to the way to approach diseases (and differential treatment). The simultaneous study of books on physical examination and Internal Medicine given, will lead to better understanding of the pathophysiology of diseases.

The student is trained to present clearly, briefly and comprehensively the patient to the group. Efforts should be made to expose the student to as many patients and diseases as possible. At the same time the student is given the opportunity to develop the ability to work with all the members of the medical team. During the visit the students gain theoretical training on cases hospitalized in the clinic. The trainers make references to the condition of the patient examined and questions that link theory with clinical practice in order to cause concern and better assimilation of knowledge.

Under the guidance of the medical personnel, students learn how to make some therapeutic and diagnostic operations such as blood tests, electrocardiogram and blood sugar measurement.

Clean medical coat and decorous behavior is necessary at the Hospital. Students should avoid informing patients, that they attend, on the progress of the clinical, laboratory examinations and to refer them to the relevant doctors. Clinical notes contain confidential information and it is important to protect the confidentiality of the patient.

### **Tutorials**

The students know the topics of the course in advance. The topics are presented by faculty members and students are adequately prepared to participate actively in the discussion. The presence of all the students is compulsory. Students should also attend all the training events in the clinic obligingly (grand rounds, conferences).

### **Call**

Students will be on call in the external call of the clinic until 10 pm. The call is determined by the educational team in which the student belongs. On call trainee doctors and the students are given the opportunity to examine upfront patients admitted to the Hospital. The student participates in the activities of the call group actively.

### **Attendance**

During the exercise the presence of the student is required (two absences for serious reasons are allowed). During clinical practice the student remains at the clinic.

## **Neurology (Clinical Training - Neurosurgery)**

**Semester** 9th & 10th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

### **Teachers**

- **ELLOUL JOHN (Professor)**

- CHRONI ELISABETH (Professor)
- CONSTANTOYANNIS CONSTANTINE (Professor)
- PANAGIOTOPOULOS VASSILIOS (Associate Professor)

## Description

1. Complete physical examination of the Nervous System and evaluation of pathological findings.
2. Familiarization of the students with regular neurological diseases (vascular stroke, Parkinson's, epilepsy, muscular diseases, multiple sclerosis, etc.) and with special "neurological" tests and Neurology emergencies.

On the last day of the second month students are orally examined to determine whether they are able to examine a patient with neurological problems and evaluate any neurological finding. At failure they repeat one, two or three weeks of the clinical training and they are examined again.

## Neurosurgery curriculum

### A. Patients with hemiparesis

1. Convincing spinal cord damage

### B. Patients with consciousness disorder

1. Introduction – waking consciousness disorders
2. Intracranial hypertension – intracranial tumours
3. Subarachnoid bleeding ( Aneurysm – vasculature)

### C. Patients with motor disorders

1. Surgical treatment of extrapyramidal diseases.

## Trauma lessons

1. Head trauma
2. Intracranial hypertension – Traumatic Brain Injury

## Obstetrics & Gynaecology

### Semester 9th & 10th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours, Clinical Training 35 hours (per week)

### Teachers

- ADONAKIS GEORGE (Professor)
- GEORGOPOULOS NEOKLIS (Professor)
- KAPONIS APOSTOLOS (Associate Professor)
- Androutsopoulos Georgios (Associate Professor)

- **MICHAIL GEORGE (Assistant Professor)**

## Description

Students' labour starts at 08:30 am and ends at 03:00 pm. Students' practice is aimed at acquiring experience concerning obstetrics and gynaecology patients of all ages and familiarizing with a wide spectrum of obstetric and gynaecologic diseases, focusing on the most frequently met. Students are distributed at the units of the Clinic, where under the instruction of the managing doctors obtain a history and examine inpatients and patients visiting the ambulatory, discuss about the differential diagnosis and follow up the laboratory tests and management of patients. Students obligingly attend the ward round performed daily by the supervisors of the units and the ward round performed by the Clinic Director/Professor every Thursday. During the ward round, students present the cases and they should be aware of the disease course, the results of paraclinical tests and the administered medication.

They also obligingly attend the rest educational activities of the Clinic:

- Tuesday 14:00-15:00: Lectures by prominent speakers
- Wednesday 12:00-13:00: Oncology Council
- Thursday 14:00-15:00: Literature review

The assessment of students concerning Obstetrics – Gynaecology is accomplished with a multiple choice test during the 7th semester. On degree students are examined orally by the Teaching Staff of the Clinic.

## Paediatrics

**Semester** 9th & 10th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

### Teachers

- **KARATZA AGGELIKI (Professor)**
- **DIMITRIOU GABRIEL (Professor)**
- **CHRYISIS DIONISIOS (Professor)**
- **SINOPIDIS XENOFON (Associate Professor)**

## Description

Fifth year students, as well as sixth year students, are trained in Clinical Paediatrics for six weeks per academic year at the Paediatric Clinic of the University of Patras.

### Prerequisite knowledge

Students attend the clinical training on the supposition that they have achieved passing score on the exams of the curriculum taught concerning Paediatrics during the Integrated Learning Program.

### Goals of clinical training

1. The acquisition of knowledge concerning Paediatrics that is essential for every doctor regardless of his/her future medical specialty.
2. The accumulation, organizing and listing of the information concerning normal psychosomatic development and disease in children of any age group (neonates, toddlers, school-age children and adolescents). This training goal includes the following skills and knowledge:
  - Ability to obtain a detailed pediatric history
  - Ability to perform a detailed physical examination and assess the developmental stage of children
  - Ability to document the information mentioned above in the form of a typical history or a problem oriented history
  - Ability to combine and analyze information in order to perform the differential diagnosis
  - Ability to draw up a plan for treating cases, based on the factual administration of diagnostic techniques
  - Ability to concisely present the clinical information during the presentation of medical cases
  - Acquisition of knowledge concerning the basics (not focusing on details) about treating several cases, mainly the most common of them
  - Review of the pathophysiology of several diseases and the impact of disease on child development

### **Students' obligations for the achievement of learning goals**

During the first day of clinical training students get separated into groups and the schedule concerning the training of each group at several Units of the Paediatric Clinic is announced. The daily presence of students at the Clinic is obligatory.

Students obtain detailed history, perform plenary physical examination, assess the psychomotor development, perform differential diagnosis and draw up a plan for the diagnosis and treatment of the cases of which they are in charge within the wards, the ordinary postnatal ward, the neonatal intensive care unit for premature newborn infants and the ambulatory services- either on call or on a regular basis- of the Paediatric Clinic (ambulatory service for premature newborn infants, Paediatric Allergology, Paediatric Endocrinology, Paediatric Pulmonology). Students follow up the disease course of patients they are responsible for, if that is possible. The students' obligations concerning the clinical training are staged depending on the year of studies (5th or 6th) and their interests.

The process of teaching, supervision and assessment of students is the responsibility of the Teaching Staff of the Paediatric Clinic but it is also estimated by all the specialists of the Clinic. Students should collaborate closely with the resident doctors who also participate in their training.

During the clinical training, students are separated into groups - each one supervised by a member of the Teaching Staff of the Clinic (tutor). The members of each group meet regularly, at least once a week. Trainees daily attend specialized, adapted to their level of education, lectures concerning common problems of Paediatric Practice. They also attend the scientific programme of the Clinic (lectures by invited speakers, medical case presentations, literature reviews) and participate in the whole procedure. The attendance of the educational programme of the Clinic is obligatory.

Upon completion of the clinical training students take a written test and their performance is assessed.

## **Psychology (Clinical Training)**

**Semester** 9th & 10th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

**Teachers**

- GOURZIS PHILIPPOS (Professor)
- MARANGOS MARKOS (Professor)
- ALEXOPOULOS PANAGIOTIS (Panos) (Associate Professor)

**Description**

The skills listed correspond to the Consensus statement elaborated recently by the Hellenic College of Academic Psychiatry, in an attempt to harmonize the university undergraduate psychiatric education.

**Reading Material**

*I. Skills to be acquired during clinical practice related to the:*

1. Therapeutic relationship
2. Collecting of information
3. Evaluation of information
4. Provision of information
5. Therapeutic process
6. Learning process
7. Ability to work and co-operate in a group
8. Recording of information

*II. Attitudes to be acquired during clinical practice regarding:*

9. General medical practice
10. Therapeutic relationship with patients and patients' relatives.
11. Psychiatry as a medical specialty

**Surgery (Clinical Training I)**

**Semester** 9th & 10th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

**Teachers**

- KEHAGIAS IOANNIS (Professor)
- MAROULIS IOANNIS (Professor)
- GLIATIS IOANNIS (Professor)
- VOGIATZIS GREGORIOS (Professor)
- FLIGKOU FOTEINI (Associate Professor)
- SKROUBIS GEORGE (Associate Professor)
- PANAGOPOULOS ANDREAS (Associate Professor)

- KOKKALIS ZINON (Associate Professor)
- Karydis Nikolaos (Assistant Professor)

## Description

The clinical training of students in Surgery is taking place both in the 5th and 6th year and lasts 8 weeks in the 5th year (including the clinical training in anesthesiology - intensive monitoring and Orthopaedics) and 6 weeks in the 6th year.

The main objective of the clinical training of students of the 5th year, is at the end of the training to feel that they are able to undertake the access and identification procedure of the surgical problem of a patient.

The practical application of achieving this goal which will also be the culmination of undergraduate surgical education of the student, will be in the responsibility of an assistant that the student will take during the clinical training in the 6th year.

Achieving this goal is a bidirectional concept and it is based on the effort of both the trainer and the trainee. The instructor is academically obliged to help the student in order to be able to handle scientifically well and responsibly the problem of the patient. This procedure is performed on one hand with lessons- discussions in small groups referred to the most common surgical problems (diagnostic approach, differential diagnosis and therapeutic approach are taught) and on the other hand by applying the above to clinical practice, namely to the patients hospitalized in the clinic, with various surgical problems.

The process of this interactive educational effort, in order to achieve the above objective, is based on a specific training program, which has theoretical and practical parts.

### A. Theoretical part

Courses focused on the clinical problems of hospitalized patients in the Surgery Clinic:

1. Upper – lower digestive system bleeding
2. Fluids - electrolytes
3. Ileum
4. Colon cancer
5. Liver- biliary – pancreatic cancer
6. Investigation of thyroid nodule
7. Surgical treatment of the clinically severe obesity
8. Jaundice
9. Acute surgical abdomen
10. Breast lumps investigation
11. Hypovolaemic shock
12. Embolism – limbs thrombosis
13. Acute pancreatitis
14. Surgical treatment of type II diabetes and metabolic syndrome
15. Solid organ transplantations
16. Acute thorax

B. Practical part, that aims to:



1. Physical examination, proper learning and execution.
2. The collection of reliable information and data from patients with skillful efficient and effective manner.
3. The writing of a form of a medical history with diagnostic plan, choice of laboratory tests and choice of therapeutic methods

## Reading Material

### Clinical training curriculum for the students of the 5th year.

The clinical training is mandatory and in accordance with the decision of the Department, only two justified absences are allowed.

- Students' arrival time is 8:00 p.m. From 8:00 p.m. to 8:30 p.m. they watch both departments of their clinic. Students of the 6th year and the interns are collecting blood samples, scheduling examinations on patients and preparing the medical history of the patient for the morning round.
- 9.00-10.30: Watch and participate in the clinical visit in both of the departments of the clinic with the department head, the interns and the students of the 6th year. In this clinical visit the students of the 5th year will be taught physical examination in specific surgical diseases and the preoperative preparation and postoperative monitoring.
- 11-13.00: The students with the students of the 6th year and with the interns participate in medical history taking and in the clinical examination of new patients.
- 13.00-14.00: Lesson.
- Then, the students watch in both departments of the clinic the interns and the students of the 6th year preparing patients to be operated the following day.

At the end of the course only the students on call stay in the clinic. Student participation in the call of the clinic is considered to be mandatory. Specifically there are 2 students of the 5th year in the general call and 2 of them in the internal call, according to a program drawn up at the beginning of the two months period. The call is mandatory and students on duty must remain in the hospital until 11p.m. in the general call and by 9 in the internal call.

The students' presence is mandatory in the advanced courses of the clinic that are taking place once a month, in the Auditorium of the Hospital.

### Educational objectives in clinical training of the students of the 5th year in Orthopaedics.

The student must be able to:

1. Recognize the clinical presentation of emergency orthopaedic cases and manage them appropriate.
2. Apply casts, dressings, and splints and to know their usage and complications.
3. Recognize the clinical signs of orthopaedic soft tissues, joints and bone infections. He/she must be able to start immediate therapy and order the appropriate laboratory and imagine tests.
4. Interpret and understood the radiological signs of fractures and degenerative diseases in orthopaedics.
5. Perform a thorough clinical examination and comprehensive history taking for orthopaedic diseases in the past. To explain the problem to the patient and his or her relatives. To cooperate with the rest medical and nursery stuff of the clinic.

6. Attend basic surgical procedures in the OR and discuss the approach and management with the consultants.
7. Actively participate in the on call rota at the A & E Department under the supervision of specialist registrars and consultants.
8. Participate in the regular outpatient office of the clinic where he/she will be able to examine the patients, interpret the x-rays and to follow up the patients who have been operated.

### **Educational objectives of the clinical training in Intensive Care of the students of the 5th year**

During the practice in the Intensive Care Unit the students will acquire basic knowledge in the following subjects:

1. Support of the airway in critically ill patients and practice in advanced cardiopulmonary resuscitation.
2. Forms of oxygen- therapies.
3. Assessment of priorities for therapeutic interventions in patients with multiple problems.
4. Monitoring (namely continuous monitoring and recording of vital functions): respiratory, circulatory, CNS, renal function etc.
5. Assessment of critically ill patients and treatment planning per system:
  - Respiratory
  - Cardio - circulatory
  - CNS (Traumatic brain injury treatment, Glasgow Comma Scale(GCS), ICP monitoring , Analgesia, Sedation)
  - kidney (and acid-base balance disorders)
  - Liver, biochemical disorders
  - Infection, Sepsis, Antibiotic treatment
  - Gastrointestinal (includes diet and gastroprotection)
6. Systems of assessment of critically ill patients (scoring systems, such as APACHE-II, SOFA, SAPS, TISS etc)
7. Triage and criteria for introduction to the ICU.
8. Ventilation mechanism (invasive and noninvasive)
  - Indications – Contra-indications
  - Methods
  - Respirators
  - Weaning
9. Metabolic and electrolyte disorders
10. Addressing the multiple trauma patient in the ICU with or without concomitant traumatic brain injury
11. Systemic inflammatory response and sepsis
12. Disinfection, prevention and treatment of infection
13. Patient with brain death in the ICU – organ donors and recipient
14. Technological issues: Respirators, Electrical safety, Ultrasounds etc.

### **Exercise evaluation**

At the end of the clinical training the students of the 5th year are graded by the trainers.

- [Anaesthesiology / Intensive Care \(Clinical Training\)](#)
- [Andrology \(Clinical Training\)](#)
- [Cardiology \(Clinical Training\)](#)
- [Cardiothoracic Surgery \(Clinical Training\)](#)
- [Clinical Training In Radiology](#)
- [Dermatology \(Clinical Training\)](#)
- [Endocrinology \(Clinical Training\)](#)
- [Gastreterology \(Clinical Training\)](#)
- [Haematology \(Clinical Training\)](#)
- [Immunohaematology \(Clinical Training\)](#)
- [Infections Diseases \(Clinical Training\)](#)
- [Internal Medicine \(Clinical Training\)](#)
- [Microbiology \(Clinical Training\)](#)
- [Nephrology \(Clinical Training\)](#)
- [Neurosurgery \(Clinical Training\)](#)
- [Obstetrics – Gynaecology \(Clinical Training\)](#)
- [Oncology \(Clinical Training\)](#)
- [Ophthalmology \(Clinical Training - Elective\)](#)
- [Ophthalmology \(Clinical Training\)](#)
- [Orthopaedics \(Clinical Training\)](#)
- [Otorinolaryngology \(Clinical Training\)](#)
- [Paediatrics \(Clinical Training\)](#)
- [Pathology \(Clinical Training\)](#)
- [Pneumonology \(Clinical Training\)](#)
- [Radiobiology - Radiation Oncology \(Clinical Training\)](#)
- [Rheumatology \(Clinical Training\)](#)
- [Rhinology \(Clinical Training - Elective\)](#)
- [Surgery \(Clinical Training II\)](#)
- [Urology \(Clinical Training\)](#)

## Anaesthesiology / Intensive Care (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- FLIGKOU FOTEINI (Associate Professor)
- ARETHA DIAMANTO (Associate Professor)

### Description

The goal of this course is to familiarize students with the therapeutic approach of critically ill patients in the Intensive Care Unit. Students participate in the medical morning report, ward rounds and the therapeutic management following small groups of doctors, approaching systematically patients who invariably suffer from multiple organ failure.

Particular emphasis is placed on the comprehension of the following pathophysiological disorders and problems, which are expected to be treated in the Intensive Care Unit, such as:

- Acute respiratory failure
- Chronic respiratory failure
- Cardiovascular shock
- Systemic Inflammatory Response Syndrome and sepsis
- Multiple Organ Dysfunction Syndrome
- Multiple-trauma management
- Head and brain injury
- Diagnostic approach to the febrile patient in the Intensive Care Unit

## Andrology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- ATHANASOPOULOS ANASTASIOS (Professor)
- LIATSIKOS EVAGGELOS (Professor)
- GIANNITSAS KONSTANTINOS (Associate Professor)

### Description

The significant evolution of Urologic subspecialties and the accumulation of knowledge through the contemporary scientific progress led to the edition of the textbook of Andrology. The daily requirement of teaching at the School of Medicine of the University of Patras, concerning undergraduate students,

resident physicians and students attending the postgraduate studies programme of the Urologic clinic necessitated the publishing of ANDROLOGY.

At the first part of male sexual dysfunction knowledge arranged in logical sequence is presented, systematically approaching the condition of erectile dysfunction from the anatomical structure of the area concerning embryology and neurophysiology to the medical and surgical treatment. In particular chapters the condition of priapism, Peyronie's disease, and endocrinopathy are presented. In a separate chapter the clinical and laboratory investigation of sexual dysfunction is also presented in detail.

At the second part of subfertility curriculum includes elements of embryology, normal spermiogram, elements of immunobiology, endocrinopathies related to subfertility, cryptorchidism, testicular torsion, genital tract infections, obstructive azoospermia, normal biopsy and biopsies typical of subfertility syndromes and surgical techniques for rehabilitation. Finally, the up to date evolution and different techniques concerning in vitro fertilization and assisted natural conception are presented. Allowing that sexual dysfunction is a condition concerning the couple and not just the male, the last part of the course is on female sexual dysfunction.

#### Male sexual dysfunction:

1. Anatomy of genital tract
2. Embryology
3. Male erectile dysfunction-Sexual dysfunction
4. The normal sexual function
5. Prerequisites for normal erectile function
6. Physical examination-medication
7. Particular diagnostic tests concerning sexual dysfunction
8. Categories of erectile dysfunction
9. Peyronie's disease
10. Priapism
11. Treatment of sexual dysfunction

#### Male subfertility:

1. Elements of embryology
2. The normal spermiogram
3. Elements of immunobiology for the comprehension of possible parameters concerning male subfertility
4. Causes of male subfertility
5. Cryptorchidism
6. Testicular torsion
7. Genital tract infections
8. Obstructive azoospermia
9. Testicular biopsy
10. Cirsocele
11. Microsurgery
12. Endocrine assessment of the subfertile male
13. Classification of male subfertility based on the spermiogram
14. Obstruction of the deferent ducts of the testis
15. Toxic causes or factors affecting spermatogenesis
16. Assisted - reproduction techniques

## Cardiology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- DAVLOUROS PERIKLIS (Professor)
- CHEILADAKIS JOHN (Associate Professor)
- Papafakis Michail (Assistant Professor)

### Description

The training in the Cardiology Department has as primary aim the teaching of basic knowledge and the application of therapeutics in direct collaboration with the medical staff, so that the students in relatively limited time to get basic experience in treating cardiac patient. In today's barrage of information, with the application of new diagnostic and therapeutic interventions, physicians of Cardiology are trying for the complete presentation of the wide range of heart diseases and conformation of opinion in accordance with the guidelines of international companies of Cardiology based on proven scientific basis. For the success of this effort theoretical training on the part of the learner is required but also their active participation in various activities of the clinic.

The clinical training program includes:

1. Daily presence as early as 8.15 a.m. when report and discussion of the cases of the Cardiology Unit and Stroke Units are taking place.
2. Attendance at all programmed morning training courses.
3. Integration in the Clinic's program, participation in the various routine obligations and in the daily visits under the supervision of the hospital curators.
4. Electrocardiogram and arrhythmias lessons on Tuesday and Thursday and coronary disease lessons on Wednesday. These courses are available in the form of power point.
5. Medical history taking and physical examination courses next to the patient to understand the symptoms and signs of the cardiovascular system.
6. Theoretical and written tests every Friday.

Finally, the parallel visit of the trainee in the Haematodynamic and Echocardiography lab, in order to obtain more detailed information, is permitted.

## Cardiothoracic Surgery (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- KOLETSIS EFSTRATIOS (Associate Professor)
- CHAROKOPOS NIKOLAOS (Associate Professor)

## Radiology (Clinical Training)

**Semester** 11th & 12th (elective)

**Code** MED\_1174

**Hours** Seminar Lectures 2,5x2 Clinical Training 35x2

### Teachers

- KARNABATIDIS DIMITRIOS (Professor)
- KALOGEROPOULOU CHRISTINA (Professor)
- SOLOMOU AIKATERINI (Professor)
- ZAMPAKIS PETER (Associate Professor)
- KATSANOS KONSTANTINOS (Associate Professor)
- SPIROPOULOU DESPOINA (Assistant Professor)

### Description

#### ECTS Credits

4

#### Course Type

Skills Development

#### Prerequisite Courses

No

#### Teaching and Assessment Language

Greek

#### The Course is Offered to Erasmus Students

Yes (in greek)

#### Course Webpage (url)

<https://eclass.upatras.gr/courses/MED1155/>

#### Course Content

Clinical Training in Radiology (elective) is part of the sixth year of undergraduate studies, in the 11th and 12th semesters and has a duration of 2 weeks. Small groups of up to five students are rotated through all Radiology departments. Students follow the full program of the Laboratory. They familiarize with all diagnostic radiology procedures but also with the therapeutic procedures of interventional radiology – neuroradiology.

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

Students also attend a series of lectures on the basic principles of imaging modalities and also on radiation

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

## Teaching and Learning Methods - Assessment

### Teaching Method

Seminars, Clinical Training - Job shadowing

### Use of Information and Communication Technologies

Multimedia presentations in seminars  
Support of the Learning process by means of the e-class electronic platform

### Teaching Organization

#### *Teaching Method Semester Workload*

Seminars	5
Clinical Training	70

### Student Assessment

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

## Scope

### Learning Outcomes

The activities on this clinical training offer students the opportunity to develop their basic knowledge of modern diagnostic and therapeutic Radiology, but mainly to develop skills in making decisions about the choice of the appropriate imaging examination, according to the clinical scenario. This knowledge and skills are essential in all contemporary medical specialties, because all physicians use diagnostic methods of radiology in the care of their patients

### General Abilities

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

## Dermatology (Clinical Training)



**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- GEORGIOU SOPHIA (Professor)
- PASMATZI EFSTATHIA (Professor)

#### Description

1. Learning how to take dermatological history and how to do physical examination of the skin and its components.
2. Recognition of elementary skin lesions and understanding of their pathogenetic mechanisms.
3. Familiarity with the clinical picture of dermatologically and sexually transmitted diseases and their treatment.
4. Update on the basic principles of modern diagnostic techniques in immunohistopathology, molecular biology, immunology, biomechanics, photobiology and allergology of the skin.

On the last day of the exercise the students take exams, which will include practical (at bedside) and theoretical part.

### Endocrinology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- HABEOS IOANNIS (Professor)

#### Description

The students are practiced in small groups in endocrinology, metabolism and diabetes. The exercise is done daily during all working hours at the outpatient clinic of the Endocrine Unit. Emphasis is placed on history taking, physical examination and diagnosis in collaboration with the students. Also the treatment is determined and the therapeutic decisions are justified. After the end of the outpatient clinic students' visit with the doctors of the Department, who are responsible for the estimates of hospitalized patients, patients in the clinic of the University Hospital of Patras with problems of the endocrine system. In parallel students attend classes of the Endocrine Unit, which are taking place on a regular basis to educate and inform physicians of the Department, as well as the patients' clinicopathologic discussion in the auditorium of the University Hospital of Patras organized by the Department of Internal Medicine.

### Gastreenterology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- THOMOPOULOS KONSTANTINOS (Professor)

### Description

Students during their attendance for 2 weeks in the Gastroenterology Clinic are trained as follows:

- Medical history taking.
- Clinical examination of the hospitalized patients.
- Teaching in and out of the Hospital on the main problems related to Gastroenterology.
- Rotating attendance to the regular clinics of the Gastroenterology Department.
- Rotating attendance to the Endoscope Program.

### Haematology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

### Description

The aim of clinical practice in Haematology is to familiarize students with the diagnosis and treatment of routine hematological diseases.

Students attend clinical activities of the Haematology clinic, the transplantation, and the clinical evaluation of haematological patients. Also, they are involved in the operation of the external haematology clinic and attend regular blood tests (estimate peripheral blood, myelogram, etc). During their training they participate in educational activities of the Haematology clinic and they are trained based on clinical cases in small groups. Finally, they participate in the literature update of doctors - members of the Haematology Clinic.

### Immunohaematology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- MOUZAKI ATHANASIA (Professor)

## Reading Material

INTRODUCTORY COURSE: The immune system of humans.

LESSONS 1-4: The cells of immune system – Types, functions, interaction, immunological tolerance.

LESSON 5: Antibodies – Types, functions.

LESSON 6: The HLA system.

LESSON 7: Hypersensitivity tests.

LESSONS 8, 9: Dysfunction of the immune system – Autoimmune diseases, cancers.

LESSON 10: Immunology of transfusions.

LESSON 11: The immune system & HIV/AIDS.

LESSONS 12-14: Immunomodulation – interventions in molecular and cellular level, antibody therapy, artificial antigens (peptides), bone marrow and haematopoietic cells.

At the end of each session students receive bibliography. At the end of the course the students deliver a homework that focuses on a topic chosen from a specific list proposed by the instructor.

## Infectious Diseases (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- MARANGOS MARKOS (Professor)
- AKINOSGLOU KAROLINA (Associate Professor)
- ASSIMAKOPOULOS STELIOS (Associate Professor)

## Description

The aim of this exercise is to train students in diagnosis, differential diagnosis and treatment of ordinary inpatient and outpatient infections, as well as the major specific infections (AIDS, hepatitis, tuberculosis, etc.). During the clinical practice students attending the outpatient clinic of Infectious Diseases and the advisory visit of Infectious Diseases specialists in various clinics of the Hospital. They also attend educational events (Courses and literature informing) of the Department of Infectious Diseases of Internal Medicine Clinic.

## Internal Medicine (Clinical Training)

**Semester** 11th & 12th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

## Teachers

- GOUMENOS DIMITRIS (Professor)
- THOMOPOULOS KONSTANTINOS (Professor)
- LIOSSIS STAMATIS-NICK (Professor)
- SPIRIDONIDIS ALEXANDROS (Professor)
- HABEOS IOANNIS (Professor)
- MOUZAKI ATHANASIA (Professor)
- NIKOLOPOULOU VASILIKI (Professor)
- DAVLOUROS PERIKLIS (Professor)
- MARANGOS MARKOS (Professor)
- MAKATSORIS THOMAS (Associate Professor)
- SOLOMOU-LIOSI ELENA (Associate Professor)
- CHEILADAKIS JOHN (Associate Professor)
- DAOUSIS DIMITRIOS (Associate Professor)
- AKINOSOGLOU KAROLINA (Associate Professor)
- ASSIMAKOPOULOS STELIOS (Associate Professor)
- TRIANTOS CHRISTOS (Associate Professor)
- KARKOULIAS KIRIAKOS (Assistant Professor)

## Description

The purpose of this course is to train the students of the 6th year in the exercise of clinical practice and in the acquisition of the necessary knowledge, skills and attitudes needed for the postgraduate medical practice. During the six weeks of exercise, the students are incorporated in the nursing-education units of the Internal Medicine Clinic for 4 weeks and then in the Hematology Unit of Internal Medicine Clinic for 2 weeks.

Students are acting as assistants. They take over patients that are hospitalized and are responsible for writing the medical history of the patients. Students have to monitor the daily progress of their patients and actively participate with their group members in the diagnostic and therapeutic access of these patients.

After consultation and with the guidance of doctors in the team, the responsible for the patient student conduct therapeutic and diagnostic procedures. These include blood sampling, taking arterial blood, chest puncture, puncture of ascites fluid, placing nasogastric catheter, bladder catheterization, etc.

Students must have full and daily updates on the progress of their patients and they should be able to accurately report the status of patients to the attending physician of the team when requested.

## Call

Students are on call at the external call of the nursing unit to which they belong. The working hours are 3pm-10pm on weekdays and 8am-10pm on holidays. From the start of the call they are presented to the team members that are in charge and they assign them appropriate tasks. During the call the students are in constant contact with the responsible doctors on call, and they refer to them as for the settlement of the delegated tasks. They must also be constantly accessible by doctors on call, who must know where their students are and what they deal with. Students should also be on duty on 1-2 internal calls.

Students attend and actively participate in the educational process, as scheduled by the clinic in which

they incumbent.

## Microbiology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- PALIOGIANNI FOTINI (Professor)
- KOLONITSIOU FEVRONIA (Associate Professor)

### Description

Basic methods used in a clinical laboratory are analyzed to the students and they are given the chance to perform on their own the most common methods in the laboratory of the hospital that are useful for any physician regardless of the specialty that he/she will exercise, and they have also the opportunity to evaluate the results.

## Nephrology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- GOUMENOS DIMITRIS (Professor)
- PAPACHRISTOU EVAGGELOS (Assistant Professor)

### Description

Active participation of students in the daily schedule of the Nephrology Clinic (medical history taking, physical examination, daily visits with physicians in clinics).

Training next to the hospitalized patients. In the clinic are hospitalized patients suffering from:

- Water and electrolytes disorders
- Acid-base balance disorders.
- Arterial hypertension.
- Acute renal failure.
- Diseases of the glomerulus (glomerulonephritis).
- Diabetes mellitus and kidney damage.
- Systemic diseases with renal involvement.
- Kidney transplantation.

- Vascular problems in Haemodialysis.
- Problems in peritoneal dialysis.

Students are also trained in the basic principles of methods of renal function replacement (haemodialysis and peritoneal dialysis)

Students attend clinical training classes in the Renal Centre and at the end of their training they write a paper on a subject assigned.

## Neurosurgery (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- **CONSTANTOYANNIS CONSTANTINE** (Professor)
- **PANAGIOTOPOULOS VASSILIOS** (Associate Professor)

### Description

- Physical examination of surgical patients with central and peripheral nervous system diseases
- Imaging
- Medical case discussion

## Obstetrics – Gynaecology (Clinical Training)

**Semester** 11th & 12th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

### Teachers

- **ADONAKIS GEORGE** (Professor)
- **GEORGOPOULOS NEOKLIS** (Professor)
- **KAPONIS APOSTOLOS** (Associate Professor)
- **Androutsopoulos Georgios** (Associate Professor)
- **MICHAIL GEORGE** (Assistant Professor)

### Description

Students' labour starts at 08:30 am and ends at 03:00 pm. Students' practice is aimed at acquiring experience concerning obstetrics and gynaecology patients of all ages and familiarizing with a wide spectrum of obstetric and gynaecologic diseases, focusing on the most frequently met. Students are distributed at the units of the Clinic, where under the instruction of the managing doctors obtain a history

and examine inpatients and patients visiting the ambulatory, discuss about the differential diagnosis and follow up the laboratory tests and management of patients. Students obligingly attend the ward round performed daily by the supervisors of the units and the ward round performed by the Clinic Director/Professor every Thursday. During the ward round, students present the cases and they should be aware of the disease course, the results of paraclinical tests and the administered medication.

They also obligingly attend the rest educational activities of the Clinic:

- Tuesday 14:00-15:00: Lectures by prominent speakers
- Wednesday 12:00-13:00: Oncology Council
- Thursday 14:00-15:00: Literature review

The assessment of students concerning Obstetrics – Gynaecology during the 11th and 12th semester is accomplished with a multiple choice test. On degree students are examined orally by the Teaching Staff of the Clinic.

## **Oncology (Clinical Training)**

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- Koutras Angelos (Professor)
- MAKATSORIS THOMAS (Associate Professor)

## **Description**

Regarding the elective clinical training of the Oncology Department, students are actively involved in the clinical activities of the Oncology Department. Specifically, they are involved in medical history taking and clinical examination of outpatient. In addition, they participate in the visit in the Day Care and monitor, under supervision, oncology patients hospitalized in other clinics of the University Hospital. Students also participate actively in the differential diagnosis of patients, in the educational activities of the Department and participate in the literature update. Finally, the evaluation is done by an oral examination by the faculty members of the oncology department.

## **Ophthalmology (Clinical Training)**

**Semester** 11th & 12th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

**Teachers**

- GEORGAKOPOULOS CONSTANTINOS (Professor)

## Description

Mandatory clinical training during the 6th Year of studies for 2 weeks.

## Ophthalmology (Clinical Training - Elective)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- GEORGAKOPOULOS CONSTANTINOS (Professor)

## Description

Clinical training for 2 weeks, as an optional course during the 6th Year of studies.

## Orthopaedics (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- GLIATIS IOANNIS (Professor)
- PANAGOPOULOS ANDREAS (Associate Professor)
- KOKKALIS ZINON (Associate Professor)

## Description

The student during this class should be able to:

1. Recognize the clinical presentation of emergency orthopaedic cases and managed them appropriate.
2. Apply casts, dressings and splints and to know their usage and complications.
3. Recognize the clinical signs of orthopaedic soft tissues, joints and bone infections. He/she must be able to start immediate therapy and order the appropriate laboratory and imagine tests.
4. Interpret and understood the radiological signs of fractures and degenerative diseases in orthopaedics.
5. Perform a thorough clinical examination and comprehensive history taking for orthopaedic diseases in the past. To explain the problem to the patient and his or her relatives. To cooperate with the rest medical and nursery stuff of the clinic.
6. Attend basic surgical procedures in the OR and discuss the approach and management with the consultants.



7. Actively participate in the on call rota at the A & E Department under the supervision of specialist registrars and consultants.
8. Participate in the regular outpatient office of the clinic where he/she will be able to examine the patients, interpret the x-rays and to follow up the patients who have been operated.
9. Attend the clinical exercise courses dealing with the clinical examination of the orthopaedic patient and the management of commonest orthopaedic injuries and diseases.

## Reading Material

### Weekly program of the clinical exercise class

1 <sup>st</sup>	WEEK
<p>MONDAY</p> <ol style="list-style-type: none"> <li>1. Ankle joint and foot disorders</li> <li>2. Radiological exercise I: <b>Orthopaedic Traumatology</b></li> </ol> <p>TUESDAY</p> <ol style="list-style-type: none"> <li>1. Neurological examination of upper limb and cervical spine</li> <li>2. Radiological exercise II: <b>Orthopaedic diseases</b></li> </ol> <p>WEDNESDAY</p> <ol style="list-style-type: none"> <li>1. Pelvis and hip</li> <li>2. Emergency situations in Orthopaedics</li> </ol> <p>THURSDAY</p> <ol style="list-style-type: none"> <li>1. Anatomy &amp; pathophysiology of muscles, tendons and ligaments: Overuse Syndromes</li> <li>2. Rehabilitation of patients with motor deficits (Spine centrum – Rehab Unit)</li> </ol> <p>FRIDAY</p> <ol style="list-style-type: none"> <li>1. Shoulder and Elbow</li> <li>2. Bone defects – distractive osteogenesis (Ilizarov)</li> </ol>	
2 <sup>nd</sup>	WEEK
<p>MONDAY</p> <ol style="list-style-type: none"> <li>1. Knee</li> <li>2. Compression neuropathies of peripheral nerves</li> </ol> <p>TUESDAY</p> <ol style="list-style-type: none"> <li>1. Neurological examination of lower limb and Lumbar Spine</li> <li>2. Conservative fracture treatment (splints, casts, taping)</li> </ol> <p>WEDNESDAY</p> <ol style="list-style-type: none"> <li>1. Wrist and hand</li> <li>2. Cartilage injuries</li> </ol> <p>THURSDAY</p>	

1. Management of the multiple-injured patient (Damage Control Orthopaedics)
2. Rehabilitation of patients with spine injuries (Spine Centrum – Rehab Unit)

#### FRIDAY

1. Walking-motion analysis
2. Evaluation – oral exams

### Otorhinolaryngology (Clinical Training)

**Semester** 11th & 12th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

#### Teachers

- NAKSAKIS STEFANOS (Professor)
- MASTRONIKOLIS NIKOLAOS (Professor)
- DANIILIDIS VASSILIOS (Professor)

#### Description

Sixth year students attend the Otorhinolaryngology Clinic for 2 weeks (compulsorily). It is the responsibility of the Teaching Staff of Otorhinolaryngology Clinic to train the students and goal of the practical training is to allow students to become more experienced concerning both practical and theoretical issues regarding the specialty. Courses in Otorhinolaryngology emergencies, Head and Neck oncology and the diagnostic approach to patients are held. Students compulsorily attend the ward round performed by the doctors of the ENT Clinic on a daily basis and participate in the whole diagnostic and therapeutic procedure. Students attend the ambulatory, participate in operations, are trained at the Units and the Laboratories of the Clinic (Neuro-otology – Nystagmography, Audiometer – Tympanometer, Logotherapy, Endoscopic ENT). During the clinical training students are allowed one absence maximum. Goal of the training is to familiarize students with examination and diagnostic techniques concerning the specialty of Otorhinolaryngology.

Curriculum includes:

- Otoscopy
- Laryngoscopy
- Rhinoscopy
- Flexible endoscopy
- Audiometry
- Tympanometry
- Nystagmography
- Evoked Potentials

### Paediatrics (Clinical Training)

**Semester** 11th & 12th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

## Teachers

- KARATZA AGGELIKI (Professor)
- DIMITRIOU GABRIEL (Professor)
- CHRYSIS DIONISIOS (Professor)
- SINOPIDIS XENOFON (Associate Professor)
- FOUZAS SOTIRIOS (Associate Professor)
- Gkentzi Despoina (Assistant Professor)

## Description

Fifth year students, as well as sixth year students, are trained in Clinical Paediatrics for six weeks per academic year at the Paediatric Clinic of the University of Patras.

## Prerequisite knowledge

Students attend the clinical training on the supposition that they have achieved passing score on the exams of the curriculum taught concerning Paediatrics during the Integrated Learning Program.

## Goals of clinical training

1. The acquisition of knowledge concerning Paediatrics that is essential for every doctor regardless of his/her future medical specialty.
2. The accumulation, organizing and listing of the information concerning normal psychosomatic development and disease in children of any age group (neonates, toddlers, school-age children and adolescents). This training goal includes the following skills and knowledge:
  - Ability to obtain a detailed pediatric history
  - Ability to perform a detailed physical examination and assess the developmental stage of children
  - Ability to document the information mentioned above in the form of a typical history or a problem oriented history
  - Ability to combine and analyze information in order to perform the differential diagnosis
  - Ability to draw up a plan for treating cases, based on the factual administration of diagnostic techniques
  - Ability to concisely present the clinical information during the presentation of medical cases
  - Acquisition of knowledge concerning the basics (not focusing on details) about treating several cases, mainly the most common of them
  - Review the pathophysiology of several diseases and the impact of disease on child development

Students' obligations for the achievement of learning goals

During the first day of clinical training students get separated into groups and the schedule concerning the training of each group at several Units of the Paediatric Clinic is announced. The daily presence of students at the Clinic is obligatory.

Students obtain detailed history, perform plenary physical examination, assess the psychomotor development, perform differential diagnosis and draw up a plan for the diagnosis and treatment of the cases of which they are in charge within the wards, the ordinary postnatal ward, the neonatal intensive care unit for premature newborn infants and the ambulatory services - either on call or on a regular basis- of the Paediatric Clinic (ambulatory service for premature newborn infants, Paediatric Allergology, Paediatric Endocrinology, Paediatric Pulmonology). Students follow up the disease course of patients they are responsible for, if that is possible. The students' obligations concerning the clinical training are staged depending on the year of studies (5th or 6th) and their interests.

The process of teaching, supervision and assessment of students is the responsibility of the Teaching Staff of the Paediatric Clinic but it is also estimated by all the specialists of the Clinic. Students should collaborate closely with the resident doctors who also participate in their training.

During the clinical training, students are separated into groups – each one supervised by a member of the Teaching Staff of the Clinic (tutor). The members of each group meet regularly, at least once a week. Trainees daily attend specialized, adapted to their level of education, lectures concerning common problems of Paediatric Practice. They also attend the scientific programme of the Clinic (lectures by invited speakers, medical case presentations, literature reviews) and participate in the whole procedure. The attendance of the educational programme of the Clinic is obligatory.

Upon completion of the clinical training students take a written test and their performance is assessed.

## **Pathology (Clinical Training)**

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- TZELEPI VASILIKI (Associate Professor)

## **Pneumonology (Clinical Training)**

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- KARKOULIAS KIRIAKOS (Assistant Professor)

## **Description**

The course takes place in the context of clinical exercises of the 6th year, in small groups, with patients from the Clinic of Pneumonology.

## Radiobiology - Radiation Oncology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- **SPIROPOULOU DESPOINA (Assistant Professor)**

### Description

The aim of this course is to present the main mechanisms of action of ionizing radiation in cells and organisms, and methods of protection against the use of ionizing radiation in medicine.

The course includes:

- The action of ionizing radiation on cell.
- Repair of radiation injury.
- Radiosensitivity of normal tissues and tumors.
- Radiosensitising and Radioprotective substances.
- Applications of radiobiology in radiotherapy.
- Radiation protection.

## Rheumatology (Clinical Training)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- **LIOSSIS STAMATIS-NICK (Professor)**
- **DAOUSIS DIMITRIOS (Associate Professor)**

### Description

The elective course of Rheumatology is taught in small groups of students (1-5 members) during the 5th year and lasts two weeks.

Its aim is to familiarize the student with the clinical picture and the treatment of patients with diseases of the skeletal system. Emphasis is placed on medical history taking and physical examination of the skeletal system, as embodied in full physical examination of the patient. Students participate in the discussion of treatment decisions.

The course takes place at the outpatient Rheumatology Clinic and concerns scheduled appointments of patients (Monday - Thursday) and participation in training courses of the Department (Friday). After the

daily outpatient clinic, an educational visit to patients of the University Hospital follows on a daily basis. For these patients has been asked Rheumatology assessment by therapists.

## Rhinology (Clinical Training - Elective)

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

### Teachers

- NAKSAKIS STEFANOS (Professor)
- MASTRONIKOLIS NIKOLAOS (Professor)
- DANIILIDIS VASSILIOS (Professor)

### Description

Sixth year students choose to attend the Rhinology Clinic for 2 weeks. It is the responsibility of the Teaching Staff of Rhinology Clinic to train the students and goal of the practical training is to allow students to become more experienced concerning both practical and theoretical issues regarding the specialty. Courses in Otorhinolaryngology emergencies, Head and Neck oncology and the diagnostic approach to patients are held. Students compulsorily attend the ward round performed by the doctors of the ENT Clinic on a daily basis and participate in the whole diagnostic and therapeutic procedure. Some hard-to-diagnose medical cases are chosen to be approached by students. Later these medical cases are discussed. Students attend the ambulatory, participate in operations, are trained at the Units and the Laboratories of the Clinic (Neuro-otology – Nystagmography, Audiometer – Tympanometer, Logotherapy, Endoscopic ENT).

During the clinical training students are allowed one absence maximum. Upon completion of the clinical training students are assessed by the instructors

## Surgery (Clinical Training II)

**Semester** 11th & 12th

**Hours** Teaching 0 hours, Laboratory 0 hours, Tutorial 0 hours , Clinical Training 35 hours (per week)

### Teachers

- KEHAGIAS IOANNIS (Professor)
- MAROULIS IOANNIS (Professor)
- SKROUBIS GEORGE (Associate Professor)
- Karydis Nikolaos (Assistant Professor)

### Description

Basic principle in the education of the students of the 6th year during their clinical practice in surgery is

the assignment of full clinical responsibility to students. They participate in all clinical and educational concentrations of the Clinic and are encouraged to express opinions and questions. Each student is responsible for two to three patients, and processes under supervision full preoperative and postoperative monitoring, while there is an effort for regular participation in surgery. In this way, together with the discussions of the cases that are taking place in the Department and in the Clinic, it is believed that the student during clinical training obtains a complete picture of the treatment of the most common surgical diseases.

The participation of the students in the Clinic call is considered mandatory. Specifically, 2 students of the 6th year are in the general call and 2 of them in the internal call, according to the program drawn up at the beginning of the two months period. Mandatory is the eve of the students in the general call until 23.00 and until 21.00 in the internal call. During the call the training is related to the overall treatment of surgical emergency incident.

Two absences are allowed during the clinical practice. Beyond these the clinical training is repeated.

At the end of the clinical training the students of the 6th year are assessed by their instructors.

Mandatory is the presence of students in advanced courses of the clinic that are taking place once a month, in the auditorium of the Hospital.

- 08.00- 08.30 Blood sampling
- 08.30- 09.00 Patients examination, preparation for visit
- 08.00-14.00 Surgery (except from Wednesday)
- 09.00-10.30 Nursing visit
- 10.30- 11.30 Department backlog processing
- 11.30- 12. 30 Patient hospitalization, medical history taking
- 12.30- 13.00 Brake
- 13.00- 14.00 5th year lessons Surgery cases preparation for the following day
- 17.30- 19.30 Afternoon educational visit (doctors on call) Discussion for the complications of the week (Wednesday)

## **Urology (Clinical Training)**

**Semester** 11th & 12th

**Hours** Practical Training 25 hours per week (for 2 weeks)

**Teachers**

- **ATHANASOPOULOS ANASTASIOS (Professor)**
- **LIATSIKOS EVAGGELOS (Professor)**
- **GIANNITSAS KONSTANTINOS (Associate Professor)**

## **Description**

During the clinical training of students on the responsibility of the Teaching Staff and all the members of the Urological Clinic, a particular learning process is carried through concerning both practical and theoretical aspects of the specialty.

Theoretical courses concerning urologic emergencies, urologic oncology, diagnostic approach to the urologic patient and imaging techniques are held. Students are practically trained and get familiarized with endourologic procedures (catheterization – cystoscopy – endoscopic surgery) and post-operative care and assessment of patients.

Trainees accept the responsibility to assist with the care of patients, participate in the whole diagnostic and therapeutic procedure and present cases during daily ward rounds. They attend the ambulatory, participate in operations, get trained at particular units and laboratories, and have the opportunity to participate in research protocols. During the two-week training each trainee has to go on-call twice from 2:00 pm till 8:00 pm. Groups of eight students are constituted during the trimesters of the 6th Year.



## **Appendix: Individual Student Logbooks – Example**

**UNIVERSITY OF PATRAS FACULTY OF  
MEDICINE**

**DEPARTMENT OF PEDIATRICS**

**HEAD: PROFESSOR G. DIMITRIOU**



**TRAINING LOGBOOK FOR MEDICAL STUDENTS IN  
'PEDIATRICS'**

**STUDENT'S NAME:**

**STUDENT'S ID:**

**TRAINING START DATE:**

**TRAINING END DATE:**

**TRAINING SUPERVISOR:**

**Introduction:**

The training of fifth-year and sixth-year students in Vascular Surgery includes the active participation and observation of clinical and educational activities of the clinic for four (4) and six (6) weeks respectively, as described in the Study Guide of the University of Patras Faculty of Medicine. During this time each student should complete the training logbook in collaboration with the training supervisor. Once the training logbook has been submitted for evaluation by the training coordinator and deemed satisfactory the student may take the final examination.

**Contents:**

1. Clinical skills
2. Case recording
3. Medical operations

# 1. CLINICAL SKILLS (TO BE ACQUIRED IN THE COURSE OF TRAINING)

Clinical Skill	Date	Signature of Training Supervisor	Remarks
Medical history acquisition			
Clinical examination of the thorax			
Clinical examination of the abdomen			
Cardiovascular clinical examination			
Neurological examination			
General clinical examination of a child (signs of dehydration, respiratory distress, meningeal signs)			
Psychomotor development			
Developmental curve assessment			
Newborn clinical examination			

## 2. RECORDING AND ANALYSIS OF CLINICAL CASES DURING TRAINING

Indicative list (at least 15 cases to be evaluated by the training supervisor for each student)

1	Gastroenteritis and dehydration
2	Anemia
3	Developmental dystrophy
4	Meningitis, Encephalitis
5	Periconchial/Conchial Cellulitis
6	Eczema
7	Upper respiratory tract infection
8	Asthma crisis
9	Pneumonia
10	Nephrotic syndrome
11	Urinary tract infection
12	Febrile convulsions
13	Epilepsy
14	Respiratory distress syndrome
15	Neonatal jaundice
16	Neonatal sepsis
17	Juvenile Diabetes
18	Short stature
19	Atopic dermatitis
20	Fever of unknown origin

## INCIDENT REPORT FORM

<b>Patient demographic data</b>	
<b>Reason for admission</b>	
<b>Medical history (individual, perinatal, family, social)</b>	
<b>Objective examination by systems/SBD</b>	

<b>Differential diagnosis</b>	
<b>Laboratory tests</b>	
<b>Disease course</b>	
<b>Diagnosis and final outcome</b>	

**Remarks by the Training Supervisor:**

### 3. MEDICAL OPERATIONS (required number in brackets)

	Date	Supervis or signature	Date	Supervis or signature	Date	Superviso r signature
Observation of nasogastric tube placement (2)						
Measurement of Vital Signs (3)						
Blood gas interpretation (3)						
Electrolyte interpretation (3)						
Chest X-ray interpretation (3)						
Ventilators in Units - basic principles (2)						
Phototherapy equipment - basic principles (2)						
Incubators - basic principles (2)						
Observation of lumbar puncture and principles of technique (2)						
Observation of suprapubic aspiration (2)						
Observation of venipuncture - blood collection in						



child & neonate (3)						
Observation of venipuncture - serum in child & neonate (3)						
Observation of venipuncture of skull (1)						
Neonatal resuscitation in the delivery room (3)						