

PRACTICAL SKILLS LOGBOOK

Faculty of International Medical Studies

**GEORGE EMIL PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE, AND TECHNOLOGY OF
TÂRGU MUREŞ**

ACADEMIC YEAR 2026 - 2027

YEAR OF STUDY: 5

Student's Name: _____

Matriculation Number: _____

E-mail Address: _____

Hospital Name: _____

Hospital Address: _____

Tutor's Name: _____

Dear students,

We present this practical skills logbook that describes the medical activities that are part of your clinical training and all the skills you should acquire during the sixth year of study in the medical field.

This logbook will help you identify and address any gaps in your theoretical and practical knowledge and prepare you for future professional responsibilities.

Completing this logbook allows you to track your personal learning progress, the degree of achievement of the proposed items as well as to obtain continuous feedback from the clinical training supervisor. If you have found that there are gaps in your knowledge, it is important to ask for further explanation and assistance during the mandatory on-call rota.

During the clinical training programme, the clinical training supervisor or designated teacher will answer all the questions and problems you may encounter during the training hours. They will be responsible for supervising your progress in acquiring the notions related to the clinical training.

Please fill in this logbook as required and have the signatures and seals of the doctors for the skills acquired, as this logbook will be collected, reviewed, and evaluated by us. You will be admitted to the graduation examination only after this logbook has been correctly and fully completed.

To continuously improve the teaching process, your constructive feedback is very important and, therefore, we recommend that you also complete the evaluation chapter at the end.

We wish you a pleasant clinical experience this academic year!

The teaching staff of the **Faculty of International Medical Studies**

George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș

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A. GENERAL INFORMATION

Important information regarding organisation and procedures during clinical training can be found on the UMFST website and on the Blackboard platform:

<https://umfst.ro>

If you have any questions regarding the organisation of your clinical year, please contact the Dean's Office; they will be pleased to assist you.

Please respect the scheduled practical activities in the hospital and, if necessary, seek individual guidance from your tutors.

General objectives:

- Develop the ability to care for patients individually, under the supervision of medical teaching staff
- Foster a sense of responsibility towards patients and colleagues
- Develop practical skills in the context of relevant theoretical knowledge
- Development of communication, social and emotional skills
- Integrate relevant differential diagnoses into everyday medical practice
- Apply problem-solving medical approaches
- Establish a working diagnosis on clinical grounds

For the protection of your patients, you must have adequate immunity to mumps, measles, rubella, diphtheria, varicella (chickenpox), and pertussis (whooping cough). For your own protection, you should be vaccinated against Hepatitis B and, if possible, Hepatitis A.

In accordance with Art. 20 of Law 46/2003 (Patient Rights Law) it is strictly forbidden to photograph/film patients, medical documents and personal data within healthcare units without their consent, except in cases where images are necessary for diagnosis, treatment or to avoid suspicion of medical negligence.

Coordinators of the clinical disciplines in the curriculum of the fifth year of study

Discipline	Coordinator	Contact Details
Anaesthesia and Intensive Care		
Nephrology		
Neurology		
Paediatrics		
Pulmonology		
Rheumatology		
Gastroenterology		
Oncology		
Neurosurgery		

B. Clinical Training – Medical Specialties

1. Anaesthesia and Intensive Care

Semester: 1 or 2

Lecture hours: 28 hours/semester

Clinical rotation hours: 60 hours/semester

- **Duration: 4 weeks (Semester 1 or 2)**
- **Practical activities in hospital: 60 hours/semester**

Topics Assignments: Minimum Requirement: 1 clinical case per topic	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Respiratory Failure Clinical cases: • ARDS (Acute Respiratory Distress Syndrome) • Acute respiratory failure • Ventilation modes and ventilator settings • Lung ultrasound		
Cardiogenic Shock Clinical cases: • Pulmonary oedema • Extracorporeal management of cardiogenic shock • Monitoring of cardiogenic shock		
Hypovolemic Shock Clinical cases: • Haemorrhagic shock • Other causes of hypovolemic shock • Management of hypovolemic shock • Monitoring/diagnosis of hypovolemia		

Septic Shock Clinical cases: • Causes of sepsis • Diagnosis of sepsis • Management of septic shock • Antibiotic management of sepsis		
Liver Failure Clinical cases: • Causes of liver failure • Management of liver failure • Extracorporeal management of liver failure		
Renal Failure Clinical cases: • Causes of renal failure • Management of renal failure • Extracorporeal management of renal failure		
Topics: Minimum Requirement – 1 clinical case/topic	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Coma and Sedation in Intensive Care Clinical cases: • Types of coma • Management and diagnosis of coma • Indications for sedation in ICU • Methods of sedation		
Poisoning / Toxicology Clinical cases: • Acetaminophen poisoning • Non-acetaminophen poisoning • Management of the critically ill poisoned patient		
Acid-Base and Electrolyte Disorders Clinical cases: • Hyponatremia • Hypokalaemia • Hypernatremia • Hyperkalaemia		

Pain Management Clinical cases: • Pain assessment and diagnosis • Non-pharmacological pain therapies • Multimodal pain management		
Nutrition of the Critically Ill Patient Clinical cases: • Calculation of nutritional requirements • Methods of nutritional support in critically ill patients • Nutritional products		

Assisting in Emergency Medical Care Procedures

Minimum standard requirement: participate in 1 anaesthesia per type

No.	Pathology/ Type of Intervention - Procedure	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
1.	General anaesthesia with orotracheal intubation		
2.	General anaesthesia with laryngeal mask airway		
3.	Total intravenous anaesthesia		
4.	Spinal anaesthesia		
5.	Epidural anaesthesia		
6.	Regional anaesthesia – regional nerve blocks: upper limb, lower limb, abdomen		

Additional learning opportunities *:

No.	Date	Description of the additional learning opportunity
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2.		
3.		
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5.		

* - It is not a mandatory requirement for the practical exam.

2. Nephrology

Semester: 1 or 2

Lecture hours: 14 hours/semester

Clinical rotation hours: 30 hours/semester

- Duration: 2 weeks (Semester 1 or 2)
Hospital-based practical activities: 30 hours/semester

Topics: Minimum requirement: 1 clinical case per assignment	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Introduction. Diagnostic Approach to Kidney Diseases • Medical history and specific features of the clinical examination in nephrology • Imaging and functional investigation tests • Diagnosis using non-invasive and invasive tests in nephrology		
Nephritic Syndrome • Aetiology • Differential diagnosis • Type of glomerular disease		
Nephrotic Syndrome • Aetiology • Differential diagnosis • Type of glomerular disease		
Urinary Tract Infections • Aetiology • Differential diagnosis • Therapeutic approach		
Acute Kidney Injury • Aetiology • Differential diagnosis • Therapeutic approach		

• Chronic Kidney Disease • Aetiology • Differential diagnosis • Therapeutic approach		
Optional Activities • Kidney pathology during pregnancy • Monitoring during haemodialysis • Monitoring of peritoneal dialysis		

Nephrology Procedures

No.	Condition/ Type of Intervention – Procedure	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
1.	Abdominal/Renal Ultrasound Assist, observe, and summarise the appropriate clinical indication and its impact on clinical decision-making. (2 procedures)		
2.	Renal Biopsy (1 procedure) – optional		
3.	Haemodialysis Catheter Placement (1 procedure)		
4.	Peritoneal Dialysis Catheter Placement (1 procedure) – optional		

Laboratory Tests:

Minimum standard criteria: interpretation of at least 3 blood tests for renal function / urinalysis and 2 urinary sediment tests / urine culture / blood culture during clinical training.

Pathology / Type of Intervention – Procedure	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor

Blood tests for renal function		
Urinalysis		
Urinary sediment examination		
Urine culture		
Blood culture		

Additional learning opportunities*:

No.	Data	Description of the additional learning opportunity
1.		
2.		
3.		
4.		
5.		

* - It is not a mandatory requirement for the practical exam.

3. Neurology

Semester: 1 or 2

Lecture hours: 28 hours/semester

Clinical rotation hours: 45 hours/semester

- **Duration: 3 weeks (Semester 1 or 2)**
Hospital-based practical activities: 45 hours/semester

Topics: Minimum standard – 1 clinical case /topic	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Introduction. Diagnostic Approach to Neurological Diseases • Medical history • Neurological examination • Assessment of consciousness • Examination of meningeal signs; cranial nerve examination (I–XII) • Assessment of gait, balance, and coordination • Motor system examination: evaluation of muscle strength and muscle tone, assessment of reflexes • Sensory system examination • Examination of abnormal movements • Assessment of speech • Examination of the autonomic nervous system Note: The student will observe the procedure of the neurological examination in two patients, and subsequently will carry out this examination for each of the cases presented below.		
Atherothrombotic Ischemic Stroke <i>(2 case presentations)</i> • Medical history • Clinical and neurological examination • Discussion of paraclinical investigations (blood tests, brain CT/MRI, cerebral CT/MR angiography, EEG, carotid Doppler ultrasound, etc.) • Differential diagnosis • Acute treatment (intravenous thrombolysis and endovascular therapy) • Secondary prevention according to associated comorbidities		

Cardioembolic Ischemic Stroke <i>(2 case presentations)</i> • Medical history (anamnesis) • Clinical and neurological examination • •		
Cardioembolic Ischemic Stroke <i>(2 case presentations)</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain CT/MRI, cerebral CT/MR angiography, EEG, carotid Doppler ultrasound, echocardiography, Holter ECG monitoring, etc.) • Differential diagnosis • Acute treatment options (intravenous thrombolysis and endovascular therapy) • Secondary prevention according to associated comorbidities		

Cardioembolic Ischemic Stroke <i>(2 case presentations):</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain CT/MRI, cerebral CT/MR angiography, EEG, carotid Doppler ultrasound, echocardiography, Holter ECG monitoring, etc.) • Differential diagnosis • Acute treatment options (intravenous thrombolysis and endovascular therapy) • Secondary prevention according to associated comorbidities		

Lacunar Ischemic Stroke (1 case presentation): • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain CT/MRI, EEG, carotid Doppler ultrasound, echocardiography, Holter ECG monitoring, etc.) • Differential diagnosis • Acute treatment options (intravenous thrombolysis) • Secondary prevention according to associated comorbidities		
Ischemic Stroke of Other Causes (1 case presentation): • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain CT/MRI, cerebral CT/MR angiography, EEG, carotid Doppler ultrasound, echocardiography, Holter ECG monitoring, blood tests for hereditary thrombophilias, infectious and autoimmune vasculitis, etc.) • Differential diagnosis • Acute treatment options (intravenous thrombolysis and endovascular therapy) • Secondary prevention according to associated comorbidities		

Cerebral Venous Thrombosis <i>(1 case presentation):</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain CT/MRI, cerebral CT/MR angiography, blood tests for hereditary thrombophilias, infectious and autoimmune vasculitis, etc.) • Differential diagnosis • Acute treatment options • Chronic treatment		
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Haemorrhagic Stroke <i>(2 case presentations):</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain CT/MRI, cerebral CT/MR angiography, etc.) • Possible etiologist • Differential diagnosis • Acute treatment and management • Chronic treatment according to associated comorbidities		
Multiple Sclerosis <i>(3 case presentations):</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain and spinal MRI, cerebrospinal fluid examination, visual evoked potentials, etc.) • Differential diagnosis • Treatment options in case of relapse		

• Treatment options with disease-modifying therapies		
• Myasthenia Gravis (1 case presentation): • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, chest CT, repetitive nerve stimulation, etc.) • Differential diagnosis • Treatment and management options • Complications – myasthenic crisis		
• Parkinson’s Disease (2 case presentations): • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain CT/MRI, etc.) • Differential diagnosis • Treatment and management options		
• Peripheral Nervous System Disorders (2 case presentations): <i>polyneuropathies, mononeuropathies, plexopathies, radiculopathies, cranial nerve palsies, polyradiculoneuropathies</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, electroneurography, EMG, etc.) • Possible aetiologies • Treatment and management options		

Epilepsy <i>(1 case presentation):</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain MRI, electroencephalography, etc.) • Differential diagnosis • Treatment and management options		
• Encephalopathies Secondary to Systemic Diseases <i>(1 case presentation):</i> • Medical history (anamnesis) • Clinical and neurological examination • Paraclinical investigations (blood tests, brain MRI, electroencephalography, etc.) • Differential diagnosis • Treatment and management options		

Procedures – Minimum Standard Criteria: performing/assisting/observing at least 1, 2, 3, or 5 procedures during the clinical rotation.

Pathology / Type of Intervention – Procedure	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Brain Computed Tomography (CT) (5 procedures) Assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Neck/Brain CT Angiography (2 procedures) Assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		

Brain Magnetic Resonance Imaging (MRI) (5 procedures) Assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making • Diagnostic criteria		
Cerebral MR Angiography (2 procedures) Assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Spinal Cord MRI (2 procedures) Assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Carotid Doppler Ultrasound (3 procedures) Observing correct technique and assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Electroneurography (ENG) (1 procedure) Observing correct technique and assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		

Electromyography (EMG) (1 procedure) Observing correct technique and assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Repetitive Nerve Stimulation Study (1 procedure) Observing correct technique and assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Electroencephalography (EEG) (1 procedure) Observing correct technique and assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Visual Evoked Potentials (VEP) (1 procedure) Observing correct technique and assisting with interpretation Key points: • Clinical applications/indications • Impact on clinical decision-making		
Lumbar Puncture (LP) (1 procedure) Observing correct technique and assisting with interpretation Key points: • Clinical applications/indications		

Impact on clinical decision-making		
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Additional learning opportunities *:

No.	Date	Description of the additional learning opportunity
1.		
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4. Paediatrics

Semester: 1 or 2

Number of lecture hours: 42 hours/semester

Number of clinical rotation hours: 105 hours/semester

- **7 weeks (Semester 1 or 2)**

Practical hospital activities: 90 hours/semester

Topics: Minimum standard – 1 clinical case/topic	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Clinical examination of a newborn/child and the specific presentation scheme for the newborn/child, with completion of the medical record/paediatric observation chart, based on an accurate medical history obtained from the parent/legal guardian/child and a structured physical examination of the newborn/child.		
Respiratory tract pathology in children • Viral pneumonia in children • Bacterial pneumonia in children • Bronchiolitis • Bronchial asthma		
Cardiovascular disorders in children • Congenital heart malformations (Tetralogy of Fallot, atrial septal defect, ventricular septal defect) • Myocarditis • Endocarditis • Pericarditis • Heart failure		
Digestive system diseases: • Acute gastroenteritis in children • Acute dehydration syndrome • Gastroesophageal reflux • Peptic disease • Celiac disease • Cystic fibrosis • Cow's milk protein allergy		
• Deficiency diseases • Rickets • Iron-deficiency anaemia • Protein-calorie malnutrition		

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Connective tissue diseases - Juvenile rheumatoid arthritis - Kawasaki disease		
Renal and urinary tract diseases - Acute diffuse glomerulonephritis - Nephrotic syndrome - Urinary tract infections		
Henoch–Schönlein purpura - Idiopathic thrombocytopenic purpura - Haemophilia		
Oncological diseases in children - Acute leukaemia in children - Wilms’ tumour - Neuroblastoma - Hodgkin’s and non-Hodgkin’s lymphoma		
Nervous system pathology - Febrile seizures - Epilepsy in children		
Metabolic and nutritional diseases - Diabetes mellitus - Obesity		

COMPETENCIES: MEDICAL HISTORY / EXAMINATION / MANAGEMENT PLAN

- Obtaining a complete medical history
- Performing a complete physical examination, with detailed assessment of the organ system involved
- Presenting the medical history and physical examination findings in a systematic, coherent, and concise manner that addresses the main symptom/problem, identifies the relevant findings, and leads to a logical conclusion
- Developing a list of differential diagnoses
- Preparing a diagnostic plan by selecting appropriate investigations for the patient

- Developing a treatment plan, considering the risk–benefit ratio of treatment options and the available resources
- Effective communication with the patient/family regarding the differential diagnosis, proposed investigations, treatment options, and prognosis

7.1 Students will have the opportunity to present at least 1 paediatric case. Students will be able to perform:

- Completing the medical history and physical examination in the patient’s medical records
- Explaining diagnostic and therapeutic procedures and obtaining the patient’s informed consent
- Recording the patient’s progress in the observation chart
- Communicating with the patient’s family, providing advice and explanations
- Preparing discharge recommendations and communicating them verbally to the patient
- Writing a medical letter
- Case presentations (oral)
- Identifying therapeutic goals and priorities in a specific clinical context
- Prescribing medications on special forms
- Choosing the optimal route of administration and dosage form in a specific clinical context
- Recognising adverse drug reactions
- Assessing the child’s weight status at different ages
- Planning primary, secondary, and tertiary prevention in a specific context
- Students may be asked to examine the patient (newborn/child) under supervision

Specific competencies in paediatrics: performing/assisting/observing a minimum of 1–3 procedures during medical training.

Topics: Minimum standard – 1 clinical case/topic	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
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PROCEDURAL SKILLS		
- Assessment of blood pressure and heart rate - Measurement of blood glucose using a glucometer - Venous blood sampling ± collection of blood cultures - Arterial blood sampling for blood gas analysis - Urine dipstick test - Collection of swabs (nasal, throat, skin, or wound) - Lumbar puncture - ECG recording		
PATIENT CARE SKILLS		
Performing surgical handwashing		
Preparing an intravenous infusion		
Using correct techniques for moving and handling patients, including fragile patients		

PRESCRIBING SKILLS:		
- Instructing patients in the use of inhalation devices for medication - Prescribing and administering oxygen - Preparing and administering injectable medications (intramuscular, subcutaneous, intravenous)		
THERAPEUTIC PROCEDURAL SKILLS:		
Performing intravenous cannulation		

• Performing safe and appropriate blood transfusion • Performing urinary catheterisation in males and females • Performing nasogastric tube placement • Using local anaesthetics • Interpreting chest, abdominal, and pelvic X-rays • Nutritional assessment (plotting on growth charts)		

Additional learning opportunities *:

No.	Date	Description of the additional learning opportunity
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5. Pulmonology

Semester: 1 or 2

Number of lecture hours: 14 hours/semester

Number of clinical rotation hours: 30 hours/semester

- **2 weeks (Semester 1 or 2)**
Practical hospital activities: 45 hours/semester

Topics: Minimum standard – 1 clinical case/topic:	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Introduction. Diagnostic approach to respiratory diseases: • Medical history (anamnesis) and physical examination in pulmonology • Paraclinical investigations for establishing the positive and differential diagnosis • Specific questionnaires for the assessment of respiratory diseases (CAT, mMRC, ACT, Epworth, STOP-BANG) • Complete diagnosis based on clinical examination and results of paraclinical investigations		
Pulmonary function tests (1) • Pulse oximetry • Spirometry – simple/with reversibility testing (indications, technique, interpretation) • Plethysmography. DLCO measurement (indications, technique, interpretation)		
Pulmonary function tests (2) • Arterial blood gas analysis (indications, technique, interpretation) • Six-minute walk test (indications, technique, interpretation)		
Imaging in respiratory diseases (1) • Chest X-ray, PA and lateral view (indications, technique, interpretation) • Thoracic CT (indications, technique, interpretation)		
Imaging in respiratory diseases (2) • HR-CT (indications, technique, interpretation)		

• Thoracic–pleural ultrasound (indications, technique, interpretation) • PET-CT (indications, technique, interpretation)		
Thoracocentesis •Indications/Contraindications •Technique •Investigations of pleural fluid and interpretation of analysis results		
Fibrobronchoscopy •Indications/Contraindications •Technique •Additional investigations: bronchial biopsy, bronchoalveolar lavage •Interpretation of the bronchoscopy report		
Inhalation therapy •Indications •Presentation of inhalation devices •Correct technique of use •Nebulisers		
Respiratory failure •Clinical signs and symptoms •Paraclinical investigations •Oxygen therapy (indications, devices for oxygen administration, oxygen masks)		
Sleep-related breathing disorders •Clinical signs and symptoms •Paraclinical investigations •Devices for the treatment of sleep apnoea and hypoventilation syndrome – CPAP/BiPAP/non-invasive ventilation		

Minimum standard criteria: perform/assist/observe at least 1 type of procedures during clinical training.

Pathology / Type of intervention–procedure	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor

Physical examination	Focus on respiratory system examination + pulse oximetry (5 patients)		
Non-invasive evaluation	Specific questionnaires for chronic respiratory diseases (5 patients) Assist the patient in completing standardised questionnaires (each questionnaire once) Key points: • Communication with the patient • Interpretation of results in the context of the score obtained on the questionnaire		
Pulmonary function tests	Interpretation of spirometry (4 procedures) Key points: • Technical aspects • Diagnostic suspicion • Treatment indications		
	Interpretation of spirometry with bronchodilator test (2 procedures) Key points: • Technical aspects • Diagnostic suspicion • Treatment indications		
	Interpretation of plethysmography and DLCO (2 procedures) Key points: • Technical aspects • Diagnostic suspicion		
	Interpretation of arterial blood gas analysis (2 procedures) Key points: • Diagnosis • Clinical significance • Treatment indications		

	Six-minute walk test (1 procedure) Performing the test with the patient under the supervisor's observation Key points:		
	• Indications/contraindications • Technique • Clinical significance		
Pleuro-pulmonary imaging	Interpretation of chest X-ray (5 procedures) Key points: • Technical aspects • Identification of elementary lesions • Radiological diagnosis		
	Interpretation of thoracic CT (3 procedures) Key points: • Technical aspects • Identification of elementary lesions • CT diagnosis		
	Thoracic ultrasound (2 procedures) Assist and observe, summarise the appropriate clinical indication and the impact on clinical decision-making. Key points: • Correct positioning of the patient • Correct positioning of the transducer • Identification of anatomical structures • Ultrasound diagnosis		

Invasive diagnostic methods in pulmonology	Thoracocentesis (2 procedures) Assist and observe, summarise the appropriate clinical indication and the impact on clinical decision-making. Key points: • Correct positioning of the patient • Procedure preparation (informed consent) • Choosing the optimal site for thoracocenteses		
	Fibrobronchoscopy (2 procedures) Assist and observe, summarise the appropriate clinical indication and the impact on clinical decision-making. Key points: • Correct positioning of the patient • Local anaesthesia • Fibrobronchoscopy • Biopsy/Bronchial aspirate/Mini-bronchoalveolar lavage • Interpretation of the bronchoscopy report/bronchological diagnosis		
Inhalation therapy	Administration of inhalation therapy in patients (5 procedures) Key points: • Explaining to the patient the correct use of the inhalation device • Assisting with medication administration • Checking adherence to treatment		

Additional learning opportunities *:

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No.	Date	Description of the additional learning opportunity
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* - It is not a mandatory requirement for the practical exam.

6. Rheumatology

Semester: 1 or 2

Number of lecture hours: 14 hours/semester

Number of clinical training hours: 30 hours/semester

- 2 weeks (Semester 1 or 2)

Practical activities in the hospital: 30 hours/semester

Topics: Minimum requirement – 1 clinical case/topic	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Topic 1: History/Anamnesis in Rheumatology Key points: • Differentiation between different types of pain (mechanical, inflammatory, neuropathic, etc.) • Specific signs and symptoms of autoimmune and/or inflammatory and/or degenerative diseases		
Topic 2: Physical Examination (Techniques for autoimmune diseases vs. osteoarthritis)		
Topic 3: Laboratory Tests in Rheumatology Key points: • Complete blood count – specific characteristics in autoimmune diseases • Acute phase reactants – with specific adjustments for age and sex, plus situations that may induce false positivity or negativity • Antinuclear antibodies (e.g., ANA patterns) • Antibodies in RA, SLE, myopathies, vasculitides, Sjögren's syndrome, systemic sclerosis, sarcoidosis, others (e.g., crystal-induced arthritis)		
Topic 4: Imaging Key points: • X-rays in RA, OA, AS, PsA, Gout • MRI in AS • MSK ultrasound (e.g., bursitis, tenosynovitis, synovitis)		

Topic 5: Clinical Cases Key points: • Rheumatoid arthritis (RA) • Sjögren's syndrome • Systemic lupus erythematosus (SLE) • Antiphospholipid syndrome (APS) • Inflammatory myopathy, vasculitis • Systemic sclerosis • Spondyloarthritis (e.g., AS, PsA) • Crystal-induced arthritis • Osteoarthritis (OA)		

Minimum Standard Criteria:

A student should complete at least 1 activity for each of the following:

- Medical history/anamnesis
- Physical examination
- Evaluation of laboratory tests in autoimmune and/or inflammatory diseases
- Evaluation of an X-ray, MRI (e.g., sacroiliac joints), and/or ultrasound

Additional learning opportunities *:

No.	Date	Description of the additional learning opportunity
1.		
2.		
3.		
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* - It is not a mandatory requirement for the practical exam.

7. Gastroenterology

Semester: 1 or 2

Number of lecture hours: 28 hours/semester

Number of clinical practice hours: 75 hours/semester

- 5 weeks (Semester 1 or 2)

Hospital practical activities: 75 hours/semester

Topics	Patient's initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Minimum standard - 1 clinical case/topic		
Introduction. Diagnostic approach to gastrointestinal and liver diseases • Medical history (anamnesis) and clinical examination in gastroenterology • Imaging and functional investigation tests • Non-invasive and invasive diagnosis in gastrointestinal and liver diseases		
Bolile esofagului • Esofagită • Cancer esofagian		
Stomach diseases • Approach to the patient with upper gastrointestinal bleeding • Approach to the patient with peptic ulcer, gastritis, gastric cancer		
Small intestine disease. Celiac disease • Approach to the patient with celiac disease • Approach to the patient with malabsorption		
Inflammatory bowel disease • Approach to the patient with Crohn's disease • Approach to the patient with ulcerative colitis		

Colon pathologies • Approach to the patient with lower gastrointestinal bleeding • Approach to the patient with diverticulosis • Approach to the patient with colonic polyps • Approach to the patient with colon cancer		
Liver diseases • Chronic hepatitis: viral, autoimmune, others • Approach to the patient with chronic viral hepatitis • Approach to the patient with autoimmune hepatitis • Liver cirrhosis • Diagnostic approach to portal hypertension • Diagnostic approach to secondary portal hypertension • Diagnostic approach to the patient with variceal bleeding • Diagnostic approach to the patient with decompensated liver cirrhosis		
Biliary tract diseases • Case management in acute cholangitis		

Minimum Standard Criteria

Perform/assist/observe the minimum number of procedures indicated during clinical training.

Pathology / Type of intervention – procedure		Patient’s initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Physical Examination	Focus on abdominal examination (10 patients)		
Laboratory Tests	Haemoglobin level, coagulation profile (Prothrombin time, aPTT, fibrinogen) (3 patients) Clinical significance		
	Liver and pancreatic enzymes (2 patients) Clinical significance		
	Viral serology – tests (3 patients) Clinical indications and impact on clinical decision-making		
	o Abdominal ultrasound (5 procedures): Assist, observe, and summarise clinical		

Ultrasound	indication and impact on decision-making		
	▪ Key points: correct patient positioning, identification of abdominal anatomy/abnormalities, diagnostic criteria ○ Vascular ultrasound in abdominal examinations (2 procedures): Assist, observe, and summarise clinical indication and impact		
	Vascular ultrasound in abdominal examinations (2 procedures)		
	Assist, observe, and summarise the appropriate clinical indication and its impact on clinical decision-making.		

Abdominal imaging – hybrid clinical training (Gastroenterology/Radiology)	Abdominal imaging (2 procedures) Summarise the appropriate clinical indication and its impact on clinical decision-making. • Magnetic Resonance Imaging (MRCP) • Abdominal Computed Tomography (CT) • PET/CT		
Endoscopy	Upper digestive endoscopy (5 procedures): Review recordings/assist procedure, summarise written results • Key points: understanding indications, complications, safety aspects		
	Colonoscopy (5 procedures): Review recordings/assist procedure, summarise written results ▪ Key points: understanding indications, complications, safety aspects		
Optional Topics/Procedures	Gastrointestinal diseases in particular contexts: • Pregnancy • Oncological treatment • Endocrine disorders • Rare disorders		
	ERCP – Endoscopic Retrograde Cholangiopancreatography		
	Endoscopic Ultrasound (EUS)		
	Oesophageal manometry		
	Oesophageal pH monitoring		

Optional learning experiences *:

No.	Date	Description of Optional Clinical Experience
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*It is not a mandatory requirement for the practical exam.

8. Oncology

Semester: 1 or 2

Number of course hours: 14 hours

Number of clinical placement hours: 15 hours

- 1 week (Semester 1 or 2)

1 Practical activities in hospital: 15 teaching hours

Topics: Minimum standard – 1 clinical case/topic:	Patient's initials/ Observation sheet/ Register number	Date, signature, and stamp (TUTOR)
Breast cancer		
• Early-stage disease • Metastatic disease		
Lung cancer		
• Small cell • Non-small cell		
➤ Operable		
➤ Metastatic stage		
<i>(students must see or discuss a case with any of these diagnoses)</i>		
• Ovarian cancer • Cervical cancer		
<i>(students must see or discuss a case with any of these diagnoses)</i>		
Melanoma		
• Early-stage disease • Metastatic disease		
• Testicular cancer • Prostate cancer • Renal cancer.		
<i>(Students must see or discuss a case from the three possible conditions with any of the above diagnoses.)</i>		
• Colon cancer • Rectal cancer • Gastric cancer • Pancreatic cancer • Hepatocellular carcinoma or biliary tract cancer		
<i>(Students must see or discuss a case from the five possible conditions with any of the above diagnoses)</i>		
Optional:		
➤ Febrile neutropenia		
➤ Immune toxicity		
➤ Multiple cancers		
➤ Neurotoxicity and other side effects of systemic treatments in oncology		

2 Oncological procedures:

No.	Condition/ Type of intervention-procedure	Patient's initials/ Observation sheet/ Register number	Date, signature, and stamp (TUTOR)
1.	Pleural puncture for drainage of malignant pleural effusion (the student discusses or assists in 1 procedure)		
2.	Abdominal puncture for ascites (the student discusses or assists in 1 procedure)		
3	Puncture of the port-a-cath device for chemotherapy administration (the student discusses or assists in 1 procedure)		

3 Laboratory tests – Minimum standard criteria: interpretation of at least 5 computed tomography scans or anatomopathological results during clinical training

Condition/ Type of intervention-procedure	Patient's initials/ Observation sheet/ Register number	Date, signature, and stamp (TUTOR)
Thoracic and abdominal computed tomography with identification of the target lesion		
RECIST assessment of the oncological treatment		
Optional: - Administration of intrathecal chemotherapy - Interpretation of chest radiographs after catheter placement		

4 Additional learning experiences *:

No.	Date	Description of the additional clinical experience
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical examination.

C. Clinical Training – Surgical Specialties

1. Neurosurgery

Semester: 1 or 2

Number of lecture hours: 30 hours/semester

Number of clinical training hours: 15 hours/semester

- **2 weeks (Semester 1 or 2)**
Practical activities in hospital: 15 hours/semester

Topics: Minimum requirement – 1 clinical case for each topic	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
Principles of neurosurgery. Specific aspects of neurosurgical interventions. Basic concepts of cranio-spinal anatomy Imaging concepts in neurosurgery (cranio-spinal CT scan, cranio-spinal MRI, cerebral angiography)		
Intracranial hypertension Clinical cases: • Diffuse cerebral oedema • Acute subdural hematoma Decompressive craniectomy in malignant cerebral oedema		
Cranio-cerebral trauma Clinical cases: • Epidural hematoma • Cerebral contusion • Depressed skull fractures Chronic subdural hematoma		
Spinal trauma Clinical cases: • Lumbar spine fracture • Thoracolumbar junction fracture • Thoracic spine fracture • Cervical spine fracture		

Hydrocephalus		
Clinical cases: • Obstructive hydrocephalus • Non-obstructive hydrocephalus • Neonatal hydrocephalus • Idiopathic hydrocephalus		

	Lumbar puncture Clinical cases: • Normal pressure hydrocephalus • Post-traumatic cerebrospinal fluid fistula • Meningitis		
	Pathology of brain tumours Clinical cases: • Cerebral gliomas • Cerebral metastases • Cerebral meningiomas • Pituitary region tumours • Vestibular schwannomas • Cerebral lymphomas		
	Pathology of vascular lesions Clinical cases: • Cerebral aneurysms – surgical treatment • Cerebral aneurysms – endovascular treatment • Arteriovenous malformations (AVMs) • Subarachnoid haemorrhage		
	Degenerative spinal pathology Clinical cases: • Lumbar disc herniation • Spondylolisthesis • Cervical disc herniation		

Type of surgery	Patient initials/ Observation sheet/ Record number	Signature and seal of the supervisor
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1. Surgery of cerebral and spinal meningiomas		
2. Surgery of intracerebral tumours (gliomas/cerebral metastases)		
3. Treatment of cranio-spinal vascular lesions		
4. Surgical treatment of cranial and spinal trauma		

Additional learning opportunities *:

No.	Date	Description of the additional learning opportunity
1.		
2.		
3.		
4.		
5.		

* - It is not a mandatory requirement for the practical exam.

D. Clinical training (calls)

On-call activities

During one academic year, students must complete a minimum of 4 on-call shifts of 12 hours each (according to the current Academic Regulations), in accordance with the clinical rotations corresponding to each module.

No.	Date	Schedule interval	Clinic	Signature and seal of the supervisor
1				
2				
3				
4				

Practical activity during on-call duties

Patient case (1)	
Name, Surname / Medical Record No.	
History and symptomatology • Major symptoms • Personal physiological and pathological history • Hereditary and collateral history • Medication • Behaviour and social aspects	
Relevant physical examination for the present condition	
Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

Patient case (2)	
Name, Surname / Medical Record No.	
History and symptomatology • Main symptoms • Personal medical history (physiological and pathological) • Family history • Medication • Behaviour and social aspects	
Relevant physical examination for the present condition	

Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

Patient case (3)	
Name, Surname / Medical Record No.	
History and symptomatology • Main symptoms • Personal medical history (physiological and pathological) • Family history • Medication • Behavior and social aspects	
Relevant physical examination for the present condition	
Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

Patient case (4)	
Name, Surname / Medical Record No.	
History and symptomatology • Main symptoms • Personal medical history (physiological and pathological) • Family history • Medication • Behaviour and social aspects	
Relevant physical examination for the present condition	
Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

Patient case (5)	
Name, Surname / Medical Record No.	
History and symptomatology • Main symptoms • Personal medical history (physiological and pathological) • Family history • Medication • Behaviour and social aspects	
Relevant physical examination for the present condition	
Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

Patient case (6)	
Name, Surname / Medical Record No.	
History and symptomatology • Main symptoms • Personal medical history (physiological and pathological) • Family history • Medication • Behaviour and social aspects	
Relevant physical examination for the present condition	
Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

Patient case (7)	
Name, Surname / Medical Record No.	
History and symptomatology • Main symptoms • Personal medical history (physiological and pathological) • Family history • Medication • Behaviour and social aspects	
Relevant physical examination for the present condition	
Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

Patient case (5)	
Name, Surname / Medical Record No.	
History and symptomatology • Main symptoms • Personal medical history (physiological and pathological) • Family history • Medication • Behaviour and social aspects	
Relevant physical examination for the present condition	
Laboratory results	
Imaging	
Primary diagnosis	
Differential diagnosis	
Treatment plan	
Clinical prognosis	

Optional learning experiences*:

No.	Data	Skills acquired while on duty
1.		
2.		
3.		
4.		
5.		

* - not a mandatory requirement for the practical exam.

** - Examples of skills: patient monitoring, injections, dressings, wound cleaning and suturing, etc.

E. STUDENT FEEDBACK

Please answer the following questions, cut out the page, and place it in the questionnaire box!

1. Describe the most interesting experiences during clinical training:

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2. Describe the most difficult experiences during clinical training:

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3. List at least 3 aspects that should be improved in the future:

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