



UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN
Faculty of Medicine

Course syllabus – part A

USOS Code: 48SJO-CSL45

ECTS: 1.00

Cycle: 2026

Clinical Skills Labs 4/5 Clinical Skills Labs 4/5

SUBJECT MATTER CONTENT:

Practical classes – LABORATORY EXERCISES: Practical exercises

Classes – Performing a normal 12-lead ECG recording. Interpretation of normal and abnormal ECG recordings. Ischaemia and myocardial infarction in the ECG recording. Cardiac rhythm disturbances (life-threatening bradyarrhythmias, ventricular and supraventricular tachyarrhythmias). Ultrasound anatomy of organs and structures of the neck, abdomen and pelvis - overview. Recall of information on preparing and positioning the patient for ultrasound examination and on types of ultrasound transducers, transducer frequency and correct selection of the ultrasound probe. Normal values and norms in ultrasound examination of structures and organs in the neck, abdomen and pelvis. Types and methods of examination of the neck (thyroid, salivary glands, vessels and lymph nodes) of the most common pathologies and their differentiation. Doppler ultrasound examination of the vessels of the neck. FAST and emergency ultrasound - how to do it. Ultrasound techniques for examination of the abdomen and pelvic organs (liver, gallbladder, biliary tract, pancreas, spleen, intestines, kidneys, bladder, prostate and uterus). Ultrasound examination of the abdominal vessels and retroperitoneal space. Use of ultrasound in medicine, most common symptoms and pathologies during ultrasound examination and interpretation of ultrasound images. Individual student work with the patient - assessment of professionalism, social competence and student-patient relationship. Basic principles and techniques of fine needle biopsy - presentation and individual student work during biopsy.

Legal acts specifying learning outcomes:
311/2023;

Discipline: Medicine

Course status: Obligatory

Group of courses: B - major course

ISCED Code: 0912

Field of studies: Medicine

Field: Medicine

Learning profile: -

Form of studies: full-time

Level of studies: uniform master's studies

Year/Semester: 4th year, Medicine in English

Classes types: Classes; Practical classes;

Classes: Classes (21h); Practical classes (9h);

Language: ANG

Introductory subject: anatomy, physiology, patophysiology, internal medicine

Prerequisites: knowledge of anatomy, physiology, patophysiology, internal medicine, physical examination

Organized by the unit:

Coordinators responsible for the course:

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Additional notes:

TEACHING OBJECTIVE:

Upon completion of this module, the student should: 1. understands clinical interpretations of the USG and the most common pathologies during USG examination; 2. understands the sonographic interrelationships between the structure of the organs of the head and neck, abdomen and pelvis taking into account the basics of ultrasound examination. The student should acquired and developed the basics and principles of ultrasound examination, taking into account topographic anatomy of the organs and structures of the neck, chest, abdomen and pelvis and interprets the ultrasound images. The student knows the basic symptoms and USG signs and principles of differentiation of selected pathologies in USG examination. The student can independently perform an USG examination and visualize and assess structures and organs of the neck, abdomen and pelvis as well as interpret the most common pathologies. The student can also work in a group using acquired skills and the available literature. The student is able to establish respectful contact with the patient, observing the principles of septic and antiseptic rules and the principles of professional behaviour. The student knows the basic and principles and techniques of fine needle biopsy under USG guidance, is able to perform a biopsy of the lesion under USG image control. The student knows and improves the methods of recording and interpreting the ECG test, performs 12-lead ECG, is able to recognize and correctly interpret cardiac arrhythmias in emergencies, he recognizes the type and location of ischemic changes in the myocardium and selected ECG pathologies.

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY**Symbols for outcomes related to the discipline:**

M/NMA_P7S_WG+++++++, M/NMA_P7S_UW++

Symbols for outcomes related to the field of study:

K.3.+, K.5.+, K.8.+, E.U29.+, KA7_UU1+, KA7_UW5+, B.W8.+, E.W7.+, F.W10.+, KA7_WG1+, KA7_WG3+

LEARNING OUTCOMES:

Knowledge (W1) – Student knows and understands: M/NM_B.W8. the physical grounds of non-invasive imaging methods

Knowledge (W2) – Student knows and understands: M/NM_E.W7. the causes, symptoms, principles of diagnosing and treating the most frequently encountered internal diseases of adults and their complications: 1) cardiovascular diseases, including ischemic heart disease, heart defects, diseases of the endocardium, myocardium, and pericardium, heart insufficiency (acute and chronic), arterial and venous diseases, hypertension – primary and secondary, pulmonary hypertension, 2) respiratory diseases, including airways diseases, chronic obstructive pulmonary disease, bronchial asthma, bronchiectasis, cystic fibrosis, respiratory tract infections, interstitial respiratory diseases, pleural diseases, mediastinum diseases, obstructive sleep apnoea, respiratory distress (acute and chronic), bronchogenic carcinomas, 3) gastrointestinal diseases, including oral diseases, oesophageal diseases, stomach and duodenal diseases, intestinal diseases, pancreatic diseases, liver diseases, biliary tract and gallbladder diseases, 4) endocrine system diseases, including the hypothalamus and pituitary gland diseases, thyroid and parathyroid diseases, adrenal cortex and medulla diseases, ovary and testicle diseases and neuroendocrine tumours, polyglandular syndromes, diabetes of various types, and the metabolic syndrome – hypoglycaemia, obesity, dyslipidaemia, 5) kidney and urinary tract diseases, including acute and chronic kidney failures, glomerulus and interstitial kidney diseases, renal cysts, kidney stones, urinary tract infections, urinary tract carcinomas, especially of the urinary bladder and kidneys, 6) diseases of the haematopoietic system, including bone marrow aplasia, anaemia, granulocytopenia and agranulocytosis, thrombocytopenia, acute leukaemias, myeloproliferative and myeloproliferative-myelodysplastic neoplasms, myelodysplastic syndromes, neoplasms of mature lymphocytes B and T, haemorrhagic diatheses, thrombophilia, immediate life-threatening conditions in haematology, blood disorders in diseases of other organs, 7) rheumatic diseases, including systemic connective tissue diseases, systemic vasculitis, spondyloarthropathies, bone metabolic diseases, especially osteoporosis and osteoarthritis, gout, 8) allergic diseases, including anaphylaxis and anaphylactic shock, and angioedema, 9) water-and-electrolyte and acid-base disorders: dehydrations, excessive water retention, electrolyte management disorders, acidosis and alkalosis;

Knowledge (W3) – Student knows and understands: M/NM_F.W10. the issues of the temporarily employed imaging tests, especially: 1) radiological symptomatology of the basic diseases, 2) the instrumental methods and imaging techniques used in medical surgeries, 3) the indications, contraindications, and patient preparation for individual types of imaging tests, and contraindications against the use of contrast agents

Knowledge (W4) – Student knows and understands: KA7_WG1 human body structure based on vital diagnostic examinations, in particular x-rays, ultrasound images, computed tomography and magnetic resonance imaging

Knowledge (W5) – Student knows and understands: KA7_WG3 principles of performing ultrasound examination (USG) and basic principles of fine-needle and core-needle biopsy

Skills (U1) – Student can: E.U29. E.U 29. perform the basic medical procedures and therapies, including: 1) taking the body temperature (both external and internal), the heart rate, the arterial pressure applying a non-invasive method, 2) monitoring the vital signs with the use of the patient monitor, pulse oximetry, 3) conducting spirometry tests, oxygentherapy, assisted and controlled ventilation, 4) inserting the oropharyngeal tube, 5) performing intravenous, intramuscular, and subcutaneous injections, cannulating peripheral veins, sampling peripheral venous blood, sampling blood for culture, sampling arterial blood, sampling arterialized capillary blood, 6) taking swabs from the nose, throat, and skin, 7) catheterising the urinary bladder in women and men, inserting the gastric tube, performing gastric lavage, enema, 8) taking standard electrocardiogram tests and interpreting them, performing electrical cardioversion and defibrillation, 9) taking simple strip tests and measuring glucose concentration in blood

Skills (U2) – Student can: KA7_UU1 assist with fine-needle and core-needle biopsy

Skills (U3) – Student can: KA7_UW5 assist during an ultrasound examination, visualize selected structures and interpret the obtained images as well as conclude about the presence of pathological changes

Social competences (K1) – Student is ready to: K.3. observance of medical confidentiality and patient's rights

Social competences (K2) – Student is ready to: K.5. perceiving and recognizing own limitations and self-assessment of deficits and educational needs

Social competences (K3) – Student is ready to: M/NM_K.8. formulating conclusions from own measurements or observations

Symbols for outcomes related to the field of study:

Practical classes – ['W1', 'U1', 'K1', 'W2', 'U2', 'K2', 'W3', 'U3', 'K3', 'W4', 'W5'] – Practical exercises: performing and interpretation of 12-lead ECG.

Classes – ['W1', 'U1', 'K1', 'W2', 'U2', 'K2', 'W3', 'U3', 'K3', 'W4', 'W5'] – Practical exercises: the student recognizes and visualizes the organs of the neck, abdomen and pelvis during ultrasound examination, interprets images based on individual clinical cases and learns the rules and technique of fine-needle and thick-needle biopsy.

FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:

Classes (Colloquium practical) – ['W1', 'U1', 'K1', 'W2', 'U2', 'K2', 'W3', 'U3', 'K3', 'W4', 'W5'] – The OSCE practical test. To pass the course, it is necessary to pass Ultrasound part and the ECG part with a score of not less than 60%. The assessment will be the arithmetic mean of the Ultrasound part and the ECG.

Practical classes (Colloquium practical) – ['W1', 'U1', 'K1', 'W2', 'U2', 'K2', 'W3', 'U3', 'K3', 'W4', 'W5'] – attendance at classes, performing and interpretation of ECG. To pass the course, it is necessary to pass Ultrasound part and the ECG part with a score of not less than 60%. The assessment will be the arithmetic mean of the Ultrasound part and the ECG

REQUIRED LITERATURE:

1. Pocket Anatomy & Protocols for Abdominal Ultrasound

Steven M. Penny; Wolters Kluwer Health; 2019; Pages: ;
Tome: ;

2. Abdominal Ultrasound: Step by Step

Berthold Block; Thieme; 2016; Pages: ; Tome: ;

3. Color Atlas of ultrasound anatomy

Berthold Block; Thieme; 2022; Pages: ; Tome: ;

COMPLIMENTARY LITERATURE:

1. The Only EKG Book You'll Ever Need

Malcolm S. Thaler; Wolters Kluwer; 2022; Pages: ;
Tome: ;

2. Point of CareUltrasound Made Easy

John McCafferty, James M.Forsyth; CRC Press; 2020;
Pages: ; Tome: ;



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Detailed description of ECTS credits awarded - part B

USOS Code: 48SJO-CSL45

ECTS: 1.00

Cycle: 2026

Clinical Skills Labs 4/5

Clinical Skills Labs 4/5

1. Contact hours with the academic teacher:

- participation in: Classes	21 h
- participation in: Practical classes	9 h
- consultation	2 h
Total:	32 h

Independent work of a student:

Total: 0 h

contact hours + independent work of a student Total: 32 h

1 ECTS credit = 25-30 h of an average student's work, number of ECTS

ECTS Points = 32 h : 25 h/ECTS = 1.00 ECTS

Average: 1.00 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher - 1.00 ECTS pts

- including the number of ECTS credits for hours of independent work of a student - 0.00 ECTS pts