Danylo Halytsky Lviv National Medical University

Department Of Endocrinology

SYLLABUS

INTERNAL MEDICINE,

INCLUDING ENDOCRINOLOGY, MEDICAL GENETICS

for 6th year students of medical faculty

Semantic module

ENDOCRINE EMERGENCIES

Internal medicine

Training of Specialists of the second (master's level) in higher education

field of knowledge 22 "Health care"

specialty 222 "Medicine"

Lviv-2023

1. General information	
Name of the faculty	Medical faculty No.2
Educational program	22 “Healthcare”, 222 “Medicine”, second level of higher education (master's degree), full-time education
Academic year	2023/2024
Name of discipline, code (e-mail address on the website of Danylo Halytsky LNMU)	*Endocrinology, Ок 29.* Internal Medicine, Including Endocrinology, Medical Genetics ‘Endocrine Emergencies’ Kaf_endocrinology@meduniv.lviv.ua
Department (name, address, telephone number, e-mail)	Department of Endocrinology, Lviv, 1 Ostrozkoho, tel.(032)2759510, (032) 2764673; Kaf_endocrinology@meduniv.lviv.ua
Head of the department (contact e-mail)	Prof. Alina Mechyssslavivna Urbanovych urbanovych_alina@meduniv.lviv.ua
Studying year	6
Semester	11 or 12
Type of discipline / module	an obligatory component of the educational and professional training program
Teachers	
Oleksandr Serhiyenko, Ph.D., Professor	serhiyenko_aleksander@meduniv.lviv.ua
Olesia Kikhtyak, Ph.D., Professor	kikhtyak_oleca@meduniv.lviv.ua
Eugene Pleshanov, Ph.D., Professor	pleshanov_eugene@meduniv.lviv.ua
Victoria Serhiyenko, Ph.D., Professor	serhiyenko_viktoria@meduniv.lviv.ua
Oksana Safonova, Ph.D., Associate Professor	Safonova_Oksana@meduniv.lviv.ua
Marta Hotsko, Ph.D., Associate Professor	hotsko_marta@meduniv.lviv.ua
Khrystyna Moskva, Ph.D., Associate Professor	moskva_kristina@meduniv.lviv.ua
Mykhajlo Krasnyi, Ph.D., Assistant of Professor	krasnyi_mikhajlo@meduniv.lviv.ua
Khrystyna Kozlovska, Ph.D., Assistant of Professor	kozlovska_kristina@meduniv.lviv.ua
Orysia Lishchuk, Ph.D., Assistant of Professor	lyschuk_orisya@meduniv.lviv.ua
Erasmus yes\no	no
The person responsible for the syllabus	Oksana Safonova safonova.oks@gmail.com Safonova_Oksana@meduniv.lviv.ua
Number of credits ECTS	1,5
Number of hours (lectures/ practical classes/ independentwork of students)	Total – 45 h Workshops – 30 h Self-studying – 15 h
Language of study	Ukrainian, English
Information about consultations	According to the schedule during the academic year
Address, telephone number andwork regulations of the clinical base	№1: "Lviv Regional State Clinical Treatment and Diagnostic Endocrinology Center", 79010, Lviv, 1, Ostrozkoho str.; tel. 275-95-20, tel./ fax: 276-94-89, e-mail: lred@ua.fm, 24h/day №2: «Lviv city clinical hospital №4», 79007, Lviv, 3, Stetska str., tel. 260-21-03, e-mail: 4kmkl_uoz_lviv@ukr.net 24h/day

2. Short annotation to the course

According to the Curriculum, the teaching of the enduring discipline "Internal Medicine" is carried out in 4-6 courses. The organization of the educational process is carried out according to the European credit transfer system for the organization of the educational process (ECTS).

The program of "Internal Medicine, including endocrinology, medical genetics" in the 6th year provides for the study of internal medicine in individual specialized courses of choice, including endocrinology, with emphasis on the study of the course, diagnosis and treatment of endocrine pathology.

Teaching the basics of endocrinology in the course is conducted in an individual profile course of choice. Duration of practical classes - 6.0 hours. The main purpose of this course is to study the features of the clinic, diagnosis, differential diagnosis and treatment of endocrine pathology.

Emphasis is placed on the skills of interviewing and clinical examination of the patient, diagnosis, differential diagnosis, treatment and prevention of diseases of the endocrine organs, diagnosis and provision of emergency medical care in emergencies, as well as medical manipulations. Students participate in the diagnostic and treatment process of patients under the guidance of teachers of the department. It is also provided to master / get acquainted with the procedures most often used in the practice of endocrinology. Practical classes, clinical tours with assistants, associate professors and professors of the department are the main part of this course. Each student records and reports clinical data on the examined patients to the assistant on a daily basis and writes a medical history.

Types of classes according to the curriculum are: a) practical classes, b) independent work of students.

Thematic plans of practical classes and independent work reveal the problematic issues of the relevant sections of endocrinology. Practical classes are held on the clinical bases of the department. Methods of organizing practical classes in internal medicine requires:

• make the student a participant in the process of providing medical care to patients from the moment of their hospitalization, examination, diagnosis, treatment to discharge from the hospital;

• master professional practical skills; skills of teamwork of students, doctors, other participants in the process of providing medical care;

• to form in the student, as a future specialist, an understanding of responsibility for the level of their training, its improvement during training and professional activities.

To implement the relevant module specified in the first lesson, it is necessary to provide the student with a detailed plan of work in the clinic and provide conditions for its implementation. This plan should include:

• research that the student must master (or get acquainted with);

• algorithms (protocols) of examinations, diagnosis, treatment, prevention in accordance with the standards of evidence-based medicine;

• supervision of patients to be carried out by the student during the study of the discipline;

• reports of the patient's medical history in the study group, at clinical rounds, practical conferences.

Patient supervision involves:

• clarification of patient complaints, medical history and life, conducting surveys of organs and systems;

• conducting a physical examination of the patient and determining the main symptoms / syndromes of the disease;

• analysis of the results of laboratory and instrumental research;

• diagnosis;

• appointment of treatment;

• definition of primary and secondary prevention measures;

• report on the results of examination of the patient by a team of students in the study group, analysis under the guidance of the teacher of the correctness of diagnosis, differential diagnosis, scheduled examination, treatment tactics, assessment of prognosis and performance, prevention.

It is recommended to conduct practical classes with the inclusion of:

• control of the initial level of knowledge with the help of test questions, composed in the format of a question with 5 answer options, of which 1 - correct and checking workbooks;

• management of 1-2 patients with diseases and conditions corresponding to the subject of the lesson, followed by discussion of the correctness of diagnosis, differential diagnosis and treatment with the use of evidence-based medicine and in accordance with National and European guidelines and protocols;

• consideration of the results of additional research methods (laboratory and instrumental) used in the diagnosis and differential diagnosis, consideration of which is provided by the topic of practical training;

• control of the final level of knowledge on the test tasks made in the A format.

In practical classes, students are encouraged to keep protocols in which it is necessary to enter brief information about the patients examined during the practical lesson, diagnosis, examination plan and prescribed treatment.

Independent and individual work of students is 33% in the curriculum, is an integral part of educational activities and is included in the ECTS credits of each module and discipline as a whole. It includes:

• preparation for practical classes;

• implementation and protection of ISRS;

• preparation and writing of medical history;

• mastering practical skills;

• preparation for final control;

• writing a workbook on the topic of the lesson.

Teachers of the department provide an opportunity to carry out independent work. During practical classes and final control, control and evaluation of its implementation are carried out.

Departments of endocrinology have the right to make changes to the curriculum within 15%.

Assimilation of the topic (current control) is controlled at each practical lesson, assimilation of the content module (final control) - at the last practical final lesson. It is recommended to use the following tools to assess the level of preparation of students: test tasks, solving situational problems, conducting laboratory tests and evaluating their results, analysis and evaluation of instrumental research and parameters that characterize the functions of the human body, control of practical skills and medical manipulations.

The final control is made at the last practical lesson to the teacher of the department according to the schedule approved at the educational and methodical meeting of the department. Assessment of student performance in the discipline is a rating and is set on a multi-point scale.

For those students who want to improve their grades in the discipline, upon completion of the study of the discipline, the curriculum provides a deadline for reshaping.

3. The purpose and objectives of the course

1. 1. The purpose of teaching an individual profile course "Emergencies in endocrinology. Management of patients with diseases of the endocrine system "is the formation of the ability to apply the acquired knowledge, skills, abilities and understanding to solve typical problems of the doctor in health care, the scope of which is provided by certain lists of syndromes and symptoms of diseases, emergencies and diseases special tactics of patient management; laboratory and instrumental research, medical manipulations.
2. 2. Learning objectives:
   • conduct surveys and clinical examinations of patients with major diseases of the endocrine system and analyze their results;
   • determine the etiological and pathogenetic factors of the most common diseases of the endocrine system;
   • analyze the typical clinical picture, identify clinical variants and complications of the most common diseases of the endocrine system;
   • establish a preliminary diagnosis of the most common diseases of the endocrine system;
   • prescribe laboratory and instrumental examination of patients with the most common diseases of the endocrine system and their complications;
   • on the basis of evaluation of the results of laboratory and instrumental examination, to make a differential diagnosis, substantiate and establish a clinical diagnosis of the most common diseases of the endocrine system;
   • determine the necessary mode of work and rest in the treatment of the most common diseases of the endocrine system;
   • determine the necessary medical nutrition in the treatment of the most common diseases of the endocrine system;
   • determine the principles and nature of treatment in the treatment of the most common diseases of the endocrine system;
   • prescribe treatment, including prognostic-modifying, of the most common diseases of the endocrine system and their complications;
   • determine the tactics of emergency medical care based on the diagnosis of emergency;
   • provide emergency medical care on the basis of an emergency diagnosis;
   • carry out primary and secondary prevention of the most common diseases of the endocrine system;
   • assess the prognosis and efficiency of patients with the most common diseases of the endocrine system;
   • perform medical manipulations;
   • keep medical records;
   • adhere to the requirements of ethics, bioethics and deontology in their professional activities.
   3. Competences and learning outcomes, the formation of which provides the study of the discipline (general and special competencies).

According to the requirements of the OPP, the discipline provides students with the acquisition of competencies:

- integrated: the ability to solve typical and complex specialized problems and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.

- general:

GC1	The ability to abstract thinking, analysis, and synthesis; Ability to learn and be modernly trained.
GC2	Ability to learn and master modern knowledge
GC3	Ability to apply knowledge in practical situations
GC4	Knowledge and understanding of subject area and understanding of business professionalactivity
GC5	The ability to adapt and act in a new situation
GC6	Ability to make an appropriate decision
GC7	Ability to work in a team
GC8	Interpersonal skills interaction
GC9	Ability to communicate in the State language both orally and in writing.
GC10	Ability to communicate using foreign language
GC11	Skills in using information and communication technologies
GC12	Certainty and perseverance on the tasks and responsibilities
GC13	The ability to act socially responsibly and deliberately
GC14	The ability to act based on ethical considerations

-special (professional):

SC1. Skills of interviewing and clinical examination of the patient.
SC 2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results.
SC 3. Ability to establish a preliminary and clinical diagnosis of the disease.
SC 4. Ability to determine the required mode of work and rest in the treatment of diseases.
SC 5. Ability to determine the nature of nutrition in the treatment of diseases.
SC 6. Ability to determine the principles and nature of disease treatment.
SC 7. Ability to diagnose emergencies.
SC 8. Ability to determine the tactics of emergency medical care.
SC 9. Emergency care skills.

SC 11. Skills to perform medical manipulations.
SC 13. Ability to take preventive measures.
SC 15. Ability to determine the tactics of management of persons subject to dispensary supervision.
SC 17. Ability to keep medical records.

3. Prerequisites of the course

Information on the disciplines, basic knowledge and learning results required for successful study and
acquisition of competencies in this discipline is indicated.

- Medical Biology
- Normal and Pathological Anatomy
- Normal and Pathological Physiology
- Histology, Cytology and Embryology
- Biological and bioorganic chemistry
- Microbiology, virology, and immunology
- Pharmacology
- Propaedeutic internal medicine
- Internal medicine
- Surgery

5. Program learning results (PLR)

Kn-1	Have in-depth knowledge of anatomy, physiology, pathophysiology, pathology of the anatomical system.	**PLR** -19, 21, 23
Kn-2	Have knowledge of etiology, pathogenesis, clinic, diagnosis and treatment of endocrine diseases.	**PLR** -19, 21, 23
Kn-3	Know the clinical and pharmacological characteristics of drugs used in the treatment of endocrine diseases.	**PLR** -19, 21, 23
Kn-4	Have knowledge of etiology, pathogenesis, clinic, diagnosis and treatment of emergencies in endocrine diseases.	**PLR** -19, 21, 23
Kn-5	Have knowledge of etiology, pathogenesis, clinic, diagnosis and treatment of emergencies in endocrine diseases.	**PLR** -19, 21, 23
Sk 1	Conduct surveys and clinical examinations of patients with major diseases of the endocrine system and analyze their results.	**PLR** -1-6
Sk 2	To determine the etiological and pathogenetic factors of the most common diseases of the endocrine system.	**PLR** -19, 21, 23
Sk 3	Analyze the typical clinical picture, identify clinical variants and complications of the most common diseases of the endocrine system.	**PLR** -1-3
Sk 4	Prescribe laboratory and instrumental examination of patients with the most common diseases of the endocrine system and their complications.	**PLR** -3
Sk 5	Based on the evaluation of the results of laboratory and instrumental examination, to make a differential diagnosis, substantiate and establish a clinical diagnosis of the most common diseases of the endocrine system.	**PLR** -1, 2, 3
Sk 6	Determine the necessary mode of work and rest, medical nutrition, basic principles and nature of treatment in the treatment of the most common diseases of the endocrine system.	**PLR** -4, 5, 6
Sk 7	Prescribe treatment, including prognosis-modifying, of the most common diseases of the endocrine system and their complications, using unified and local clinical protocols.	**PLR** -4, 5, 6, 19
Sk 8	Determine the tactics of emergency medical care based on the diagnosis of emergency.	**PLR** -7
Sk 9	Provide emergency medical care based on a diagnosis of emergency.	**PLR** -8
Sk 10	Perform medical manipulations.	**PLR** -11
Sk 11	To carry out primary, secondary prevention and screening of the most common diseases of the endocrine system, to form dispensary groups of patients.	**PLR** -12, 14, 17
Sk 12	Assess the prognosis and performance of patients with the most common diseases of the endocrine system.	**PLR** -15
Sk 13	Keep medical records.	**PLR** -16
Sk 14	Ability to prescribe drugs.	**PLR** -16
C -1	To form rational medical routes of patients, to organize interaction with colleagues, to form the purposes and to define structure of personal activity.	**PLR** -20, 21

C -2	Processing of medical information from various sources, using knowledge of state and foreign languages.	**PLR** -23
AR -1	Adhere to a healthy lifestyle, raise the general educational and professional level, organize the necessary level of individual safety.	**PLR** -22, 23, 25
AR -2	Adhere to the requirements of ethics, bioethics and deontology in their professional activities.	**PLR** -24
AR -3	The ability to act socially responsibly and consciously.	**PLR** -17, 19, 21, 23, 24
AR -4	Ability to work in a team.	**PLR** -19, 21

6. Format and scope of the course

Type of education	Full-time education	
Type of activity	Number of hours	Number of groups
Workshops (full-timelesson)	30	
Self-studying (full-timelesson)	15	

7. Topics and content of the course

Code of the type of the classes	***Topic***	***Content of the studying***	***Learning results code***	***Teacher***
W-1 (workshop 1)	Chronic complications in Diabetes Mellitus. COVID-19 in diabetic patients. Patients' care (patient with hypoglycemic coma).	Diabetic angiopathy and neuropathy. Classification. Diabetic nephropathy, stages of development, diagnosis, differential diagnosis, treatment and prevention. Diabetic retinopathy: stages of the process, diagnosis, prevention and treatment. Diabetic neuropathy, classification, diagnosis and treatment. Diabetic foot: classification, diagnosis, treatment. Principles of treatment of pregnant women with diabetes. Features of urgent and planned surgical interventions in patients with diabetes mellitus. Insulin therapy regimen: traditional and intensified insulin therapy. Complications of insulin therapy: hypoglycemic conditions, insulin allergy, post-injection lipodystrophy, insulin resistance, chronic insulin overdose (Somogy syndrome), insulin edema. Existing standards of diagnosis and management of patients with hypoglycemic coma, differential diagnosis, management tactics.	Kn-1-4; Sk-1-5; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
W-2 (workshop 2)	Decompensation state in Diabetes Mellitus. Diabetic ketoacidosis.	Criteria for the diagnosis of diabetes mellitus and other categories of hyperglycemia (WHO, 1999). Indications and rules for glucose tolerance test. Diagnostic value of determination of glycated hemoglobin, fructosamine, C-peptide, glucosuria, ketonuria. Criteria for compensation of metabolism, achievement of normoglycemia. Ketoacidotic conditions in diabetes mellitus. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment. Lactic acidosis. The main methods of diabetes treatment, diet therapy, dosed exercise, hypoglycemic pharmacotherapy, teaching the patient self-control. Existing standards of diagnosis and management of patients with hyperglycemic coma, differential diagnosis, management tactics.	Kn-1-4; Sk-1- 7, 10-14; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's

				Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
W-3 (workshop 3)	Thyroid goiter. Thyroid storm.COVID-19 in patients with thyroid disorders Patients' care (patient with thyroid storm).	Determination of the size of the thyroid gland. Definition - "goiter". The concept of endemic non-toxic and nodular forms of goiter. Diseases accompanied by thyrotoxicosis. Clinical differences of nodular toxic goiter. Rationale for the diagnosis of thyrotoxicosis. Medical, surgical treatment of toxic goiter, use of 131-iodine for therapeutic purposes. Differential diagnosis of thyroiditis with acute and subacute clinical course. Chronic thyroiditis. Rationale for the diagnosis of autoimmune thyroiditis. Nodular forms of goiter. Monitoring of patients with thyroid nodules. Pathomorphological classification of thyroid tumors. Rationale for the diagnosis of thyroid cancer. Existing standards of diagnosis and management of patients with thyrotoxic crisis, differential diagnosis, management tactics.	Kn-1-4; Sk-1- 7, 10-14; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
W-4 (workshop 4)	Arterial hypertension in patients with endocrine pathology. Acute adrenal crisis. COVID-19 in patients with arterial hypertension. Patients' care (patient with adrenal insufficiency).	Criteria to define hypertension (international guidelines). Classification of hypertension. Differences between essential and secondary forms of hypertension. Variants of secondary hypertension. Types of endocrine hypertension. The most common causes of endocrine hypertension. Management and treatment of endocrine forms of hypertension. Patients' care (patient with adrenal insufficiency). Treatment standards. Differential diagnosing.	Kn-1-5; Sk-1-14; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
W-5 (workshop 5)	Hypothalamus-hypophysis disorders (acromegaly, hyperprolactinemia, diabetes insipidus). and metabolic disorders (obesity). COVID-19 in patients with hypotalamo-hypophysis disorders and obesity.	Classification of hypotalamo-hypophysis disorders. Acromegaly. Etiology and pathogenesis. Clinical picture. Diagnostic and differential diagnosis. Treatment. Hyperprolactinemia. Etiology and pathogenesis. Clinical picture. Diagnostic and differential diagnosis. Treatment. Diabetes insipidus. Etiology and pathogenesis. Clinical picture. Diagnostic and differential diagnosis. Treatment. Obesity. Etiology and pathogenesis. Clinical picture. Diagnostic and differential diagnosis. Treatment.	Kn-1-4; Sk-1- 7, 10-14; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi,

				PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
SS1 (self-studying 1)	Preparation for a practical lesson on the topic №1. Mastering the skills to analyze laboratory data. Instrumental research methods.	In-depth study of the etiology, pathogenesis, clinic, diagnosis, treatment of diabetes, acute and chronic complications of diabetes.	Kn-1-4; Sk-1-5; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
SS2 (self-studying 2)	Preparation for a practical lesson on the topic №2. Mastering the skills to analyze laboratory data. Instrumental research methods.	In-depth study of the etiology, pathogenesis, clinic, diagnosis, treatment of acute and chronic diabetic complications.	Kn-1-4; Sk-1- 7, 10-14; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
SS3 (self-studying 3)	Preparation for a practical lesson on the topic №5. Mastering the skills of interpretation of laboratory	In-depth study of the etiology, pathogenesis, clinic, diagnosis, differential diagnosis and treatment of thyroid pathology; diagnostics, differential diagnostics, treatment of	Kn-1-4; Sk-1- 7, 10-14; C-1, 2;	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,.,

	and instrumental examination of the thyroid gland; diagnosis and treatment of thyrotoxic crisis	emergencies.	AR-1-4.	Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
SS4 (self-studying 4)	Preparation for a practical lesson on the topic №4. Mastering the skills of interpreting the data of hormonal and instrumental examination of the adrenal glands.	In-depth study of the etiology, pathogenesis, clinic, diagnosis, differential diagnosis and treatment of pathology of the adrenal glands and acute conditions.	Kn-1-5; Sk-1-14; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
SS5 (self-studying 5)	Preparation for a practical lesson on the topic №5. Mastering the skills of determining the degree of obesity by BMI. Mastering the skills of interpretation of hormonal and instrumental examination data.	In-depth study of the etiology, pathogenesis, clinic, diagnosis, differential diagnosis and obesity and treatment of pathology of the hypothalamic-pituitary system.	Kn-1-4; Sk-1- 7, 10-14; C-1, 2; AR-1-4.	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko, Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant
SS1 (self-	Preparation and performance of individual tasks.	Independent study of theoretical material, elaboration of literature sources, solving test tasks and clinical problems from the	Kn-1-5; Sk-1-14; C-1, 2;	Eugene Pleshanov, Ph.D., Professor, Victoria Serhiyenko,

studying 1)		methodological base, training in writing prescriptions for selected drugs, writing essays, preparation of presentations.	AR-1-4.	Ph.D., Professor,., Oleksandr Serhiyenko, Ph.D., Professor, Olesia Kikhtyak, Ph.D., Professor Marta Hotsko, PhD, Associate Professor Khrystyna Moskva, PhD, Associate Professor Orysia Lischuk, PhD, Professor's Assistant Mykhailo Krasnyi, PhD, Professor's Assistant Khrystyna Kozlovska, PhD, Professor's Assistant

8. Verification of learning results			
Current control			
Learning results code	***Code of the type of the classes***	***Verifying learning outcomes method***	***Enrollment criteria***
Kn-1-5; Sk-1-14; C-1, 2; AR-1-4.	Prl-1 Prl -2 Prl -3 Prl -4 Prl -5	Types of educational activities of students according to the curriculum are: a) practical classes, b) independent work of students (VTS), in the organization of which teachers' consultations have a significant role. Thematic plans of lectures, practical classes, VTS ensure the implementation in the educational process of all topics that are part of the content of the program. Practical classes are clinical, aimed at controlling the assimilation of theoretical material and the formation of practical skills, as well as the ability to analyze and apply the acquired knowledge to solve practical problems, are held in the departments of clinical bases of the department. • Each lesson begins with a test to assess the initial level of knowledge and determine the degree of readiness of students for the lesson. The teacher determines the purpose of the lesson and creates a positive cognitive motivation; answers questions from students that arose during the VTS on the topic of the lesson. • The main stage of the lesson is the practical work of the student at the patient's bedside. The teacher and students visit the patients. Students examine patients, collect medical history, examine them, perform diagnostic manipulations and more. The control of the main stage of the lesson is carried out by assessing the student's performance of practical skills, the ability to solve typical situational problems. The teacher discusses and gives explanations, emphasizes the peculiarities of the disease in a particular child, aims at a more rational conduct of a particular method of examination, and so on. In addition, practical classes include: - planning the patient's examination; - interpretation of laboratory and instrumental research data; - conducting differential diagnosis of major diseases of the endocrine system with a typical or complicated course; - determination of the preliminary clinical diagnosis; - definition of therapeutic tactics; - appointment of medical nutrition; - providing emergency medical care; - solving situational problems; - practice of practical skills at the patient's bedside; - keeping medical records. • At the final stage of the lesson to assess the student's mastery of the topic he is asked to answer the situational tasks. The teacher summarizes the lesson, gives students tasks for independent work, points to the key issues of the next topic and offers a list of recommended reading for independent study. The duration of one practical lesson is 4.0 academic hours. Evaluation of the students' independent	**Excellent ("5")** – the student answered correctly 90-100% of the A format test (from the database "Step-2").Correctly, clearly, logically corresponds to all standardized questions of the current topic. Closely binds theory with practice and demonstrates the correct implementation of practical skills. Fluent in interpretation of the laboratory test results, adepts at prescribing appropriate examination methods. Makes differential diagnosis. Solves clinical case with higher level of difficulty and knows how to compile thematerial. **Good ("4")** - the student answered correctly 70-89% of the of A format test (from the database "Step-2"). Correctly and essentially responds to all standardized questions of the current topic. Demonstrates knowledge ofpractical skills. Correctly uses theoretical knowledge in solving practical problems, conducts a differential diagnosis. Capable to solve easy and medium complexity clinical cases. Possesses all necessary practical skills and techniques to perform their uses, more than the required minimum. **Satisfactory ("3")** - the student answered correctly 50-69% of the A format test (from the database "Step-2"). Incomplete, with the help of additional questions answers all the standardized questions on the current topic. Cannot independently makes a clear logical answer. While the student is answering and demonstrating practicalskills, he makes mistakes. Can solve only the easiest situational tasks. Has knowledge of only the minimum methods of investigations. **Unsatisfactory ("2")** - the student

Kn-1-5; Sk-1-14; C-1, 2; AR-1-4.	SS-1 SS-2 SS -3 SS -4 SS -5	work for preparation for the practical classes is carried out during the current control of the topic at the appropriate workshop. Independent work (IW) is performed by the student independently out of the classroom and evaluated overall.	answered correctly 50% of the test of A format. Does not know the material of the current topic, cannot build a logical response, does not respond to additional questions, and does not understand the content of the material. Makes significant, gross mistakes when answering and demonstrating practical skills. The student can work off the missed topics or reassign them to the teacher during his consultations (individual work with students) no more than 3 times during the study of the discipline, thus gaining a number of points not less than the minimum to be admitted to the final control. .

Final control

General evaluation system	Participation in the work during the semester / exam - 60%/40% on a 200-point scale
Rating scales	Traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale
Admission to final credit	The student attended all practical (laboratory, seminar) classes and received at least 120 points for current performance

Type of final control	*Methods of final control*	*Enrollment criteria*
Credit	The semester credit is set based on the results of the current control.	Semester test is a form of final control, which consists in assessing the student's mastery of the discipline material solely on the basis of the results of all types of educational work provided by the curriculum.

In order to intensify the learning process, systematic learning of the material, establish feedback with each student, timely control and adjustment of the educational process, increase motivation, reduce skipping classes, students' responsibility for learning outcomes, the success of each student is assessed by the rating system .

Assessment is one of the final stages of learning activities and determining learning success. The grade in the discipline is set as the average of the grades for the current educational activity, which is given in the assessment of theoretical knowledge and practical skills in accordance with the lists defined by the program of the discipline.

The current educational activities of students are controlled in practical classes in accordance with specific goals. The following diagnostic tools are recommended for students: test control (machine and non-machine), solving situational problems, control of practical skills, in particular - the ability to properly supervise the patient, prescribe and interpret the results of laboratory and instrumental examinations, justify the diagnosis based on analysis clinical and auxiliary methods of examination.

When assessing the mastery of each topic of the student's module, grades are set on a 4-point (traditional) scale using the evaluation criteria adopted by the university and approved by the cyclic medical commission. This takes into account all types of work provided by the methodological development for the study of the topic.

The student can work out the missed topics during the rehearsals no more than 3 times during the study of the subject, thus gaining a number of points not less than the minimum to get credit for the discipline. Assessment of current learning activities: is carried out in each practical lesson on the relevant topic and is defined by the ECTS system and the traditional scale adopted in Ukraine

The calculation of points is carried out based on the student's grades according to the 4-th grads (national) scale during the study of the discipline, by calculating the arithmetic mean (AM) rounded up to two decimalplaces. Resulting value is converted into points according to multipoint scale as follows:

$$X=(CAx200):5$$

Assessment of individual student tasks.

Independent work of students, which is provided in the topic along with classroom work, is assessed during the current control of the topic in the relevant lesson. Assimilation of topics that are submitted only for independent work is controlled in the test. Execution of individual tasks is taken into account when deriving an assessment for a practical lesson in terms of their successful completion and defense. In no case may the total amount of points for the current

educational activity exceed 200 points.

The maximum number of points that a student can score for the current educational activity in the study of the discipline is 200 points, the minimum - 120 points.

Final control. Semester test is a form of final control, which consists in assessing the student's mastery of the academic material of the discipline solely on the basis of the results of all types of educational work provided by the curriculum. The semester credit is set based on the results of the current control.

Assessment of student achievement in the discipline is a rating and is set on a multi-point scale as the arithmetic mean of the relevant individual profile courses and is determined by the ECTS system and the traditional scale adopted in Ukraine.

Correspondence of discipline assessment in points to assessment in traditional assessments

200 Score system	ECTS Score	4-factor Score system
170–200	A	Excellent
160–169	B	Good
140–159	C	Satisfactory
130–139	D	Satisfactory
120–129	E	Saticfactory
Less than 120	F, Fx	Unsatisfactory

After completing the discipline is responsible for the organization of educational and methodical work at the department or the teacher puts the student the number of points and the corresponding grade in the record book and fill in the progress of students in the discipline form U-5.03B - credit.

According to the decision of the academic council of the university, the number of points scored by the student in the discipline may be added to the incentive points (not more than 12 points) for winning prizes in international and national subject competitions, but in no case the total number of points for the discipline may exceed 200 points. .

Conversion of the number of points for semester control into grades on the ECTS scale and on a four-point (traditional) scale.

Semester control scores are independently converted to both an ECTS scale and a four-point scale. ECTS scale scores are not converted to a four-point scale and vice versa.

Students enrolled in one course in one specialty, based on the number of points scored for the semester control, are ranked on the ECTS scale as follows:

ECTS score	Statisticaly
«A»	10 % of the best students
«B»	Next 25 % students
«C»	Next 30 % students
«D»	Next 25 % students
«E»	Last 10 % students

Ranking with the assignment of grades "A", "B", "C", "D", "E" is carried out by the dean's office or other structural unit by the decision of the Academic Council educational department for students of this course who study in one specialty and successfully completed the discipline . According to the decision of the Academic Council, it is recommended to rank students - citizens of foreign countries in the same array with students - citizens of Ukraine who study in the same specialty.

Students who receive grades "FX" and "F" ("2") are not included in the list of ranked students, even after re-taking the module. Such students automatically receive a score of "E" after re-assembly.

Grades in the discipline "FX", "F" ("2") are given to students who have not enrolled in at least one module of the discipline after completing its study.

The grade "FX" is given to students who have scored the minimum number of points for the current educational activity, but who do not pass the final control of the module. This category of students has the right to reschedule the final control according to the approved schedule (but not later than the beginning of the next semester). Reassembly of the final control is allowed no more than twice.

Grade "F" is given to students who have attended all classes in the module, but did not score the minimum number of points for the current educational activities and are not admitted to the final control. This category of students has the right to re-study the module.

With the permission of the rector, the student can increase the grade in the discipline by rearranging the final control (not more than three times during the entire period of study).

Semester control scores for students who have successfully completed the program in the discipline are also converted by the department into a traditional four-point scale according to absolute criteria as shown below in table.

Оцінка за багатобальною (200) шкалою	Оцінка за чотирибальною шкалою
Від 170 до 200 балів	«5»
Від 140 до 169 балів	«4»
Від 139 до 120	«3»
Нижче 120	«2»

Note 1. According to the decision of the Academic Council, the university may establish for the assessment of "5" criteria of 180-200 points, for the assessment of "4" - the criteria of 140-179 points.

NOTE 2 Proportional criteria are used when using other multi-point scales

NOTE 3 These criteria are also used in determining the module grade as appropriate.

The ECTS score is NOT converted to the traditional four-point scale, as the ECTS scale and the four-point scale are independent.

Multi-point and four-point scales characterize the actual success of each student in mastering the discipline. The ECTS scale is relative, comparative, rating, which establishes the student's belonging to the group of the best or worst among the reference group of classmates (faculty, specialty). Therefore, the grade "A" on the scale can not be equal to the grade "excellent", and the grade "B" - the grade "good" and so on. As a rule, when converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" on the ECTS scale do not coincide with the limits of grades "5", "4", "3" on the traditional scale.

9. Політика курсу

The policy of the discipline is determined by the system of requirements for the student in the study of individual profile course "emergencies in endocrinology. Management of patients with diseases of the endocrine system "within the discipline" Internal Medicine "and is based on the principles of academic integrity. Students are explained the value of acquiring new knowledge, academic standards that must be followed, why they are important, what is academic integrity, what are its values and functions, how students can contribute to its development by their actions; the essence, features and reasons of inadmissibility of academic plagiarism are explained, students of higher education are encouraged to independently carry out educational tasks, to refer correctly to sources of information in case of borrowing of ideas, statements, information.

The policy of the discipline is:

in the obligatory observance of academic integrity by students, namely:

• independent performance of all types of work, tasks, forms of control provided by the work program of this discipline;

• references to sources of information in case of use of ideas, developments, statements, information;

• compliance with the legislation on copyright and international rights;

• - providing reliable information about the results of their own educational (scientific) activities, used research methods and sources of information.

adherence to the principles and norms of ethics and deontology by higher education students:

• actions in professional and educational situations from the standpoint of academic integrity and professional ethics and deontology;

• compliance with the rules of internal regulations of the clinical base of the department, to be tolerant, friendly and balanced in communication with students and teachers, patients, medical staff of health care institutions;

• awareness of the importance of examples of human behavior in accordance with the norms of academic integrity and medical ethics.

attending classes by higher education students:

- • Attendance at all classes is mandatory for the current and final assessment of knowledge (except for good reasons).

10. References

Basic

1. Ендокринологія: підручник для студентів вищих нARчальних закладів / [П.М. Боднар, Ю.І. Комісаренко, Г.П. Михальчишин, … А.М. Урбанович та іню]; за ред. Ю.І. Комісаренко, Г.П. Михальчишин. – 5-те вид., оновл. Та доповн. – Вінниця: Нова книга, 2020. – 536 с.: іл.
2. Наказ МОЗ України від 29.12.2014 №1021 «Уніфікований клінічний протокол первинної, екстреної, вторинної (спеціалізованої) та третинної (високоспеціалізованої) медичної допомоги «Цукровий діабет 1 типу у молодих людей та дорослих».
3. Эндокринология: учебник (П.Н. Боднар, Г.П. Михальчишин, Ю.И. Комиссаренко и др.) Под ред. профессора П.Н. Боднара, - Изд. 2, перераб. и дополн. – Винница: Нова Книга, 2016. – 488 с.
4. Davidson's Principles and Practice of Medicine 23rd Edition. Editors: Stuart Ralston, Ian Penman, Mark Strachan Richard Hobson. Elsevier. - 2018. – 1440 p.
5. Endocrinology: textbook /Ed. by prof. Petro M. Bodnar.- 4th ed. updated – Vinnitsa: Nova Knyha, 2017. – 328 p.
6. USMLE Step 2 CK Lecture Notes 2017: Internal Medicine (Kaplan Test Prep). - 2016. - Published by Kaplan Medical. - 474 pages.

Additional

7. Зак К.П., Тронько М.Д., Попова В.В., Бутенко А.К. Цукровий діабет, імунітет і цитокіни. Київ: Книга-плюс, 2014. – 500 с.
8. Наказ МОЗ України від 21.12.2012 №1118 «Уніфікований клінічний протокол первинної та вторинної (спеціалізованої) медичної допомоги «Цукровий діабет 2 типу».
9. Стандарти надання медичної допомогти хворим з патологічними станами щитоподібної та прищитоподібних залоз в Skовах дії негативних чинників довкілля (видання третє, розширене) / За ред. О.В. Камінського. – Харків: «Юрайт», 2017. – 312 с.
10. Тронько Н.Д., Соколова Л.К., Ковзун Е.И., Пастер И.П. Инсулинотерапия: вчера, сегодня, зARтра. К.: Медкнига, 2014. – 192 с.
11. 100 избранных лекций по эндокринологии. / Под ред. Ю.И. Караченцева, А.В. Казакова, Н.А. КрARчун, И.М. Ильиной. – Х: 2014. – 948 с.
12. *International* Textbook of Diabetes Mellitus, 2 Volume Set. Ed. by R.A. Defronzo, E. Ferrannini, P. Zimmet, G. Alberti. 4th Edition, 2015. – 1228 p.
13. Harrison's Endocrinology. Ed. by J. Larry Jameson, Mc Graw – Hill., New York, Chicago, Toronto. e.a. 4rd edition, 2016. - 608 p.
14. *Williams* Textbook of Endocrinology. Ed. by Henry M. Kronenberg, Shlomo Melmed, Kenneth S. Polonsky, P. Reed Larsen. Saunders. 13 edition, 2015. – 1936 p.

WEB-resources

15. https://www.diabetes. org
16. http://www.oxfordmedicaleducation.com/
17. https://www.thyroid.org

11. Equipment, logistics and software of the discipline / course

1. 1. Multimedia projector
2. 2. Computers
3. 3. Overhet
4. 4. Glucometers
5. 5. Work program of the discipline
6. 6. Plans of lectures, practical classes and independent work of students
7. 7. Abstracts of lectures
8. 8. Multimedia presentations of lectures
9. 9. Methodical instructions for practical classes for students
10. 10. Methodical instructions for practical classes for teachers
11. 11. Methodical materials that provide independent work of the student
12. 12. Test and control tasks for practical classes
13. 13. Situational tasks for practical classes
14. 14. Virtual medical histories
15. 15. List of drugs to study
16. 16. List of issues to be submitted for final control
17. 17. Methodical support of the final control:
18. • List of questions for the final control
19. • List of standardized practical methods of performing practical skills
20. • Test tasks
    - • List of prescription drugs

12.Additional information

In charge for academic work: Oksana Safonova, tel. (032)2759510
In charge for students scientific circle: Orysia Lischuk, tel. (032) 2759510.
Materials related to the educational and organizational process (thematic plan, schedule of classes, schedulesof consultations and work up of missed classes) are available on the website of the department: (https://new.meduniv.lviv.ua/kafedry/kafedra-endokrynologiyi/). Besides, all materials are on platform MISA (http://misa.meduniv.lviv.ua/login/index.php).
Adresses of the department locations:
№1: "Lviv Regional State Clinical Treatment and Diagnostic Endocrinology Center", 79010, Lviv, 1, Ostrozkoho str.; tel. 275-95-20, tel./ fax: 276-94-89, e-mail: lred@ua.fm.
№2: «Lviv city clinical hospital №4», 79007, Lviv, 3, Stetska str., tel. 260-21-03, e-mail: 4kmkl_uoz_lviv@ukr.net 24h/day викладачі: Oleksandr Serhiyenko, Olesia Kikhtiak, Victoria Serhiyenko, Marta Hotsko, Oksana Safonova, Khrystyna Moskva, Halyna Suslyk, Orysia Lischuk.
№2: «Lviv city clinical hospital №4», 79007, Lviv, 3, Sventsitskoho str., tel. 260-21-03, e-mail: 4kmkl_uoz_lviv@ukr.net, teachers: Eugene Pleshanov, Mykhailo Krasnyi, Khrystyna Kozlovska.

The person responsible for the syllabus
O.Safonova, Ph.D., Associate Professor **(Signature)**

Head of the Department
A.Urbanovych, Doctor of Science, Professor **(Signature)**