

Kharkiv National Medical University  
Faculty: VI Faculty for Training of Foreign Students of the Educational and  
Scientific Institute for the Training of Foreign Citizens  
Department of Internal Medicine № 3 and Endocrinology  
Area of knowledge "22" Health care  
Specialty "222" Medicine  
Educational and professional program Medicine of the second level of higher  
education

## **SYLLABUS OF THE COURSE**

### **"Current issues of endocrinology"**

The syllabus was approved at the meeting of  
the Department of Internal Medicine №3  
and endocrinology

Protocol № 13 from "28" August 2020

Head of Department  
\_\_\_\_\_ prof. Zhuravlyova LV

The syllabus is approved by  
methodical commission of KhNMU  
on problems of professional training of  
therapeutic profile

Protocol №\_1 from «\_31»\_\_08\_\_2020

Head  
\_\_\_\_\_prof. Kravchun P.G.

**NAME OF THE COURSE:**  
**Current issues of endocrinology**

**Syllabus compilers:**

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Website of the department: <http://vnmed3.kharkiv.ua/>.

Class schedule: Monday, Tuesday, Wednesday, Thursday, Friday (8.45-12.20 - first shift, according to the schedule).

Location: classrooms of the Department of Internal Medicine №3 and endocrinology on the basis of Communal Non-profit Enterprise of Kharkiv Regional Council "Regional Clinical Hospital" (Kharkiv, Independence Ave. 13).

**Discipline Information**

**1. Description of the discipline**

Sixth year.

Semesters 11 and 12, 6th academic year.

Discipline scope:

Number of credits - 4

The total number of hours is 120.

Hours for training: classroom - 20, student's independent work - 100.

Practical lessons 20 hours.

Independent work 100

Control type: credit

General characteristics of the discipline: The optional discipline "Topical issues of endocrinology" is intended for 6th year students.

Moodle: <http://31.128.79.157:8083/course/index.php?categoryid=14>.

**2. The purpose and objectives of the discipline.** The purpose of teaching elective discipline is to acquire and deepen knowledge, skills, abilities and other competencies in endocrinology, necessary in professional activity, which are established on the basis of an educational and professional program.

The objectives of studying the discipline "Topical issues of endocrinology" is the acquisition by students of competencies in accordance with the general and professional competencies of the educational and professional program "Medicine" of the second (master's) level of higher education in the specialty 222 Medicine, qualification Master of Medicine.

**3. Status and format of the discipline.** The discipline is selective, the format is

mixed.

**4. Teaching methods:** a) practical training, b) independent work of students, c) consultations.

Thematic plans of practical classes and independent work of students reveal the problematic issues of the relevant sections of clinical endocrinology.

The methodology for organizing practical training suggests the need for:

- 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 working in a team of students, doctors, other participants in the process of providing medical care;
- to form in the student, understanding of responsibility for the level of the preparation, its improvement during training and professional activity.

At the first lesson of the relevant section, the student is given a plan of work in the clinic. This plan should include:

- research that the student must master;
- algorithms of examinations, diagnosis, treatment, prevention in accordance with the standards of evidence-based medicine;
- patient supervision to be provided by the student during the cycle;
- 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 of the disease;
- analysis of laboratory and instrumental examination data;
- formulation of the diagnosis;
- appointment of treatment;
- definition of primary and secondary prevention measures;
- report on the results of the examination of the patient by a team of students in the study group.

Independent work of students and individual work of students includes:

- pre-classroom and extracurricular training of students on the subject of the discipline;
- work of students in the endocrinology department;
- acquisition of practical skills through work with patients;
- individual independent work of students.

### **Literature:**

1. Внутрішня медицина: Порадник лікарю загальної практики: навчальний посібник. / А.С. Свінціцький, О.О. Абрагамович, П.М. Боднар та ін.; За ред. проф. А.С. Свінціцького. – ВСВ «Медицина», 2014. – 1272 с. + 16с. кольоров. вкл.
2. Ендокринологія: підручник (П.М. Боднар, Г.П. Михальчишин, Ю.І.

Комісаренко та ін.) За ред. професора П.М. Боднара, - Вид. 4, перероб. та доп. – Вінниця: Нова Книга, 2017. – 456 с.

3. Наказ МОЗ України №1021 від 29.12.2014 «Уніфікований клінічний протокол первинної, екстреної, вторинної (спеціалізованої) та третинної (високоспеціалізованої) медичної допомоги «Цукровий діабет 1 типу у молодих людей та дорослих».

4. 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.

5. Davidson's Principles and Practice of Medicine 23rd Edition. Editors: Stuart Ralston, Ian Penman, Mark Strachan Richard Hobson. Elsevier. - 2018. – 1440p.

6. Endocrinology: textbook /Ed. by prof. Petro M. Bodnar.- 4th ed. updated – Vinnitsa: Nova Knyha, 2017. – 328 p.

**6. Prerequisites and co-requisites of the discipline.** Anatomy, physiology, histology, pathological anatomy, pathological physiology, propaedeutics of internal diseases, internal diseases including endocrinology, hospital therapy, clinical pharmacology; surgery, pediatrics.

#### **7. Results of studies.**

**The list of knowledge acquired by the applicant of higher education in the process of studying the discipline:**

- main clinical syndromes in diseases of the endocrine organs;
- general and "anxious" symptoms in diseases of the endocrine organs;
- methods of physical examination of patients with endocrine pathology;
- etiopathogenetic mechanisms of endocrine diseases;
- modern classifications, features of the course and complications of diseases of the endocrine system;
- modern standards and protocols for diagnosing diseases of the endocrine system;
- modern treatment algorithms for diseases of the endocrine system.

**The list of skills and abilities that the applicant acquires in the process of studying the discipline:**

- Conduct surveys and physical examinations of patients with major diseases of the endocrine system, determine their etiological and pathogenetic factors, clinical picture, identify various clinical variants and complications of the most common diseases of the endocrine system.
- Formulate a preliminary diagnosis of the most common diseases of the endocrine system, make a plan for examination of the patient, analyze the data of laboratory and instrumental examinations, as well as to make a differential diagnosis, justify and formulate a clinical diagnosis.
- Determine the tactics of the patient and prescribe non-drug and drug treatment, assess the prognosis and performance.
- Diagnose and provide medical care in emergencies.
- Carry out primary and secondary prevention of the most common diseases of the endocrine system.
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

## The content of the discipline

### Curriculum

#### Topics of practical classes

№	Topic	Hours
1	Theoretical foundations of endocrinology. General principles of functional and topical diagnosis of endocrinopathies. Achievements	2
2	Current aspects of diabetology. Classification, modern views on the pathogenesis, approaches to the diagnosis and treatment of type 1	2
3	Chronic complications of diabetes mellitus: classification, pathophysiology, principles of diagnosis, treatment and prevention	2
4	Current issues of clinical thyroidology. Pathophysiological bases, approaches to diagnosis and treatment of the most common thyroid	2
5	Modern principles of diagnosis and treatment of diseases of the hypothalamic-pituitary system	2
6	Diseases of the adrenal glands, modern approaches to diagnosis and treatment.	2
7	Classification of hypercorticism syndrome. Clinical and pathogenetic features, differential diagnosis, principles of treatment	2
8	Acute endocrine pathology. Pathophysiological basis, features of diagnosis and treatment of emergencies in the endocrinology clinic	2
9	Clinical and diagnostic criteria and features of treatment tactics in arterial hypertension of endocrine origin.	2
10	Autoimmune polyendocrine syndromes: classification, clinical and diagnostic criteria, approaches to treatment.	2
	Total	20

#### Individual work

№	Topic	Hours
1	General characteristics of hormones and mechanisms of their action. Neuroendocrine-immune regulation of the body.	2
2	Modern classification of diabetes mellitus. Laboratory criteria for diagnosis and compensation of the disease.	2
3	Features of the clinical course and treatment of type 1 diabetes mellitus.	2
4	Features of the clinical course and treatment of type 2 diabetes.	5
5	Diabetic microangiopathy: pathogenesis, classification, clinical forms, treatment and prevention.	5
6	Diabetic macroangiopathy: pathogenesis, main localizations, clinic, treatment and prevention.	5
7	Diabetic neuropathy: classification, pathogenesis, clinic, differential diagnosis, approaches to treatment.	5
8	Diabetic foot syndrome. Clinical forms, diagnosis, treatment.	4

9	Management of patients with diabetes mellitus in need of surgery.	2
10	Gestational diabetes mellitus: clinical and diagnostic criteria and drug tactics.	2
11	Hypoglycemic conditions: pathophysiology, clinic, differential diagnosis, tactics of treatment and prevention.	4
12	Diabetic ketoacidotic coma: pathogenesis, diagnosis, differential diagnosis, treatment and prevention tactics.	4
13	Hyperosmolar and lactic acidemic coma: pathogenesis, clinic, differential diagnosis, principles of treatment.	2
14	Iodine deficiency diseases: epidemiology, pathogenesis, clinic, diagnosis, treatment, prevention.	3
15	Modern principles of rational diagnosis and monitoring of thyroid diseases.	2
16	Nodular non-toxic goiter: classification, etiology, clinical picture, approaches to diagnosis and treatment.	2
17	Thyrotoxicosis: etiology, pathogenesis, clinic, complications, diagnosis, differential diagnosis of treatment.	4
18	Hypothyroidism: classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment.	2
19	Thyroiditis: classification, etiology, pathogenesis, clinic, differential diagnosis, treatment.	2
20	Pathology of the thyroid gland and pregnancy: features of the course, diagnosis, treatment.	2
21	Emergencies caused by thyroid disease.	3
22	Diagnostic criteria, features of the course, differential diagnosis, features of diagnosis and treatment of pathology of the thyroid gland.	2
23	Obesity as a component of the metabolic syndrome. Classification, etiology and pathogenesis. Diagnostic criteria, differential diagnosis, prevention and treatment.	4
24	Acromegaly and gigantism. Etiology, pathogenesis, clinic, differential diagnosis, principles of treatment.	2
25	Pangipopituitarism. Pathogenesis, clinic, differential diagnosis, principles of treatment.	2
26	Hyperprolactinemic syndrome. Etiology, pathogenesis, clinic, differential diagnosis, treatment.	2
27	Itsenko-Cushing's disease. Etiology, pathogenesis, clinic, differential diagnosis, treatment.	2
28	Diabetes mellitus: etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment.	2
29	Pheochromocytoma: pathogenesis, clinic, differential diagnosis, principles of treatment.	2
30	Chronic insufficiency of the adrenal cortex. Etiology, clinic, diagnosis, treatment.	3

31	Emergencies in disorders of calcium homeostasis and acute adrenal insufficiency.	2
32	Endocrine aspects of gonadal pathology in women and men. Classification, diagnostic methods, possibilities of correction.	4
33	Syndromes of multiple endocrine neoplasia: classification, clinical and diagnostic criteria, approaches to treatment.	3
34	Hormonally active tumors of the digestive tract and pancreas.	3
35	Pituitary tumors: modern classification, general approaches to diagnosis and treatment.	3
	Total	100

### **Individual tasks**

Preparation and report of the abstract in a practical lesson; report at clinical conferences of departments; report on the patient's medical history in practice; writing abstracts, articles.

### **Discipline policy and values**

To achieve the goals of training and successfully complete the course, it is necessary to join the work from the first day; attend lectures regularly; read the material before its consideration in a practical lesson; do not be late and do not miss classes.

Students with special needs should meet with the teacher or warn him before the start of classes, at the request of the student it can be done by the head of the group. If you have any questions, please contact the teacher.

### **Assessment policy**

#### ***Control methods***

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

- 1) control of the initial level of knowledge;
- 2) survey of students on the topic of the lesson;
- 3) management of 1-2 patients with diseases and conditions that correspond to the subject of the lesson;
- 4) consideration of the results of additional research methods;
- 5) control of the final level of knowledge on test tasks.
- 6) Current control is carried out by the teacher of the academic group at the last lesson. Acceptance of software is carried out by the teacher of the academic group. Assessment is carried out according to the system: "excellent", "good", "satisfactory" and "unsatisfactory". The minimum number of points that a student must score for the current activity during the study of the section is 70 points, the maximum number of points - 120 points.
- 7) The independent work of students is assessed during the current control of the topic in the corresponding lesson.
- 8) Evaluation of student's individual tasks is carried out in the conditions of their implementation. Points (no more than 10) are added as incentive. The total amount of points for the current educational activity cannot exceed 120 points.
- 9) The test for the discipline in the fall semester is carried out by the teacher of the

academic group in the last lesson.

10) Organization of final control - offset. The test itself is estimated from - 50 to - 80 points.

Credit:

1. Solving a package of test tasks, which includes basic test tasks "Krok -2". Evaluation criterion - 95-100% of correctly solved tasks, "passed - failed".

2. Assessment of the acquisition of practical skills (assessment criteria - "performed" or "failed").

3. Assessment of theoretical knowledge on the tickets drawn up at the department from the sections of the discipline, which were studied during the academic year, the criteria for assessing theoretical knowledge according to the table.

### Assessment of theoretical knowledge

Number of questions	«5»	«4»	«3»	Oral answer for question card that contain the theoretical part of the discipline	For each answer, the student receives from 10 to 16 points, which corresponds to: «5» - 16 points; «4» - 13 points; «3» - 10 points.
1	16	13	10		
2	16	13	10		
3	16	13	10		
4	16	13	10		
5	16	13	10		
	80	65	50		

### Discipline grade

The grade for the discipline is defined as the sum of points: the arithmetic mean of the points for 2 semesters during which the discipline was studied, which are translated into the 120-point ECTS scale. Then the number of points that the student received during the test is added to them.

The maximum number of points that a student can score for studying a discipline is 200 points, including the maximum number of points for current educational activities - 120 points. The minimum score is 120.

### Correspondence of estimates on a 200-point scale, four-point (national) scale and ECTS scale

Score on a 200 point scale	Score scale ECTS	Score for four-point (national) scale
180–200	A	Perfectly
160–179	B	Fine
150–159	C	Fine
130–149	D	Satisfactorily
120–129	E	Satisfactorily
Less 120	F, Fx	Unsatisfactorily



### **Control questions for credit**

- Fundamentals of endocrinology. Principles of diagnosis of endocrinopathies.
- General characteristics of hormones and mechanisms of their action.
- Current aspects of diabetology. Classification, pathogenesis, diagnosis, criteria for compensation of type 1 and 2 diabetes.
- Features of the clinical course and treatment of type 1 diabetes.
- Features of the clinical course and treatment of type 2 diabetes.
- Chronic complications of diabetes.
- Diabetic microangiopathy.
- Diabetic macroangiopathy.
- Diabetic neuropathy.
- Diabetic foot syndrome.
- Gestational diabetes mellitus.
- Iodine deficiency diseases.
- Diagnosis and monitoring of thyroid diseases.
- Nodular non-toxic goiter.
- Thyrotoxicosis.
- Hypothyroidism.
- Thyroiditis.
- Thyroid pathology and pregnancy.
- Pathology of the thyroid gland.
- Diseases of the hypothalamic-pituitary system.
- Obesity as a component of the metabolic syndrome.
- Acromegaly and gigantism.
- Pargipopituitarism.
- Hyperprolactinemic syndrome.
- Itsenko-Cushing's disease.
- Diabetes mellitus.
- Pheochromocytoma.
- Diseases of the adrenal glands.
- Chronic insufficiency of the adrenal cortex.
- Hypercorticism syndrome.
- Endocrine aspects of gonadal pathology in women and men.
- Autoimmune polyendocrine syndromes.
- Syndromes of multiple endocrine neoplasia.
- Hypoglycemic conditions.
- Diabetic ketoacidotic coma.
- Hyperosmolar and lactic acidotic coma.
- Emergencies caused by thyroid disease.
- Emergencies in disorders of calcium homeostasis and acute adrenal insufficiency.

### **Grade from the discipline**

The grade for the discipline is defined as the arithmetic mean of the points for the autumn and spring semesters, which are translated into a 120-point scale. Added to them is the number of points that the student received during the test.

The maximum number of points that a student can score is 200 points, the minimum is 120.

Grades "unsatisfactory" are given to students who were admitted to the test, but did not pass it and who are not admitted to the test.

Head of the Department  
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and endocrinology,  
d. med. n., professor

L.V. Zhuravlova