

<b>GENERAL INFORMATION</b>		
Course	<b>Internal Medicine 3 – Endocrinology</b>	
Course coordinator	<b>Assoc. Prof. Ines Bilić-Ćurčić, MD, PhD</b>	
Assistant/Associate	Assoc. Prof. Tatjana Bacun, MD, PhD Assoc. Prof. Ivana Prpić-Križevac, MD, PhD	
Study Programme	<b>Integrated undergraduate and graduate university study of Medicine in German language</b>	
Status of the course	Mandatory	
Year of study, semester	3rd year, 6th semester	
Grading scale and workload	ECTS	<b>4</b>
	Hours (L+S+E)	<b>55 (20+20+15)</b>
<b>COURSE DESCRIPTION</b>		
<b>Course objectives</b>		
<p>The goal of the course is to enable students to acquire knowledge related to the basic principles of endocrinology and the treatment of endocrinological disorders. Students will become familiar with the epidemiology, pathophysiology and clinical manifestations of endocrinological diseases, as well as diagnostic and therapeutic procedures in the context of certain diseases. The emphasis will be on a multidisciplinary approach to endocrinological diseases, evidence-based medicine and problem-oriented endocrinology.</p>		
<b>Enrolment requirements and entry competencies</b>		
There are no special requirements for this course except those defined by the curriculum of the entire study program.		
<b>Learning outcomes at the Programme level</b>		
<b>1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2</b>		
<b>Learning outcomes (5-10)</b>		
<p><b>KNOWLEDGE</b></p> <ol style="list-style-type: none"> <li>1. Name the main areas of endocrinology and diabetology and within them the basic groups of diseases of internal organs and organ systems</li> <li>2. Classify, define, describe and differentiate individual endocrine diseases as unique clinical entities</li> <li>3. Describe the leading symptoms and signs of diseases of the endocrine system and link them to specific clinical presentations and syndromes and interpret the basic pathophysiological mechanisms of the development of the most important clinical entities</li> <li>4. Present differential - diagnostic possibilities based on clinical symptoms and signs in patients</li> <li>5. Plan and select the correct diagnostic procedures in certain conditions, syndromes and diseases of the endocrine system and critically evaluate the results of diagnostic tests</li> <li>6. Distinguish the basic principles of treatment and plan the optimal type and sequence of therapeutic procedures</li> <li>7. Critically assess different invasive and non-invasive methods of treating endocrine diseases and present them to the patient with arguments</li> <li>8. Predict the appropriate prognosis of the disease and analyze the course, effects and outcomes of the treatment</li> </ol>		

9. Recognize diagnostic and treatment methods in accordance with the principles of "evidence-based medicine"

**SKILLS**

1. Demonstrate the ability to independently take medical history and perform a clinical examination and determine a working diagnosis
2. Observe the leading symptoms of the disease and recognize the connection of these symptoms with certain clinical entities
3. To develop the skill of discussing the clinical presentation and interpreting the differential diagnosis
4. Develop the skill of interpreting and discussing the results of the findings of the patient's diagnostic treatment
5. Independently perform certain clinical skills in accordance with the Clinical Skills Booklet
6. Perform, under supervision, an appropriate number of different diagnostic and therapeutic procedures in accordance with the Clinical Skills Booklet
7. Present the method of managing diagnostic and therapeutic procedures and monitoring patients in accordance with appropriate procedures (algorithms)
8. Manage the patient's medical documentation
9. Participate in team, interdisciplinary and multidisciplinary clinical work and demonstrate good communication skills with the patient, his companions and staff

**Course content**

Diabetes (Diabetes mellitus type 1 and Diabetes mellitus type 2, differences, various forms of treatment). Acute complications of diabetes (diabetic ketoacidosis and coma, hyperosmolar nonketotic state and coma, lactic acidosis, hypoglycemic crisis and coma, solving problem cases). Thyroid diseases (euthyroid goiter, hypothyroidism, hyperthyroidism, diseases of thyroid autonomy, thyroid inflammation, thyroid tumors, non-thyroid disease) Chronic complications of diabetes (diabetic retinopathy, diabetic nephropathy, diabetic neuropathy, diabetic macroangiopathy, diabetic foot, solving problem cases). Diseases of the hypothalamic-pituitary axis (hyposecretion and hypersecretion of hypophysotropic hormones, tumors, non-tumor lesions and circulatory disorders). Hyperlipoproteinemias, Anorexia, Obesity, Gonadal diseases, Other endocrine tumors (disorder of lipid metabolism, distribution of hyperlipoproteinemias, food intake disorders, primary and secondary causes, clinical consequences, chromosomal sex disorders, gonadal sex disorders, phenotypic sex disorders, other endocrine tumors, problem solving cases). Diseases of the adrenal glands (biosynthesis and metabolism of adrenal hormones, hyperfunction of the adrenal cortex, Cushing's syndrome, congenital adrenal hyperplasia, hypofunction of the adrenal gland, Morbus Addison, pheochromocytoma). Emergencies in endocrinology, Pancreas transplantation (complications of diabetes, patient selection, methods and techniques of transplantation and complications of pancreas transplantation, solving problem cases). Diseases of the parathyroid glands, Osteoporosis (primary and secondary hyperparathyroidism, hypoparathyroidism and pseudohypoparathyroidism, clinical picture, diagnostic procedures and treatment of osteoporosis). Diagnosis, therapy and prevention of osteoporosis (radiological tests, biochemical tests, nutrition, physical activity, application of drugs, solving problem cases). Pathogenesis of endocrine tumors, Molecular biology of tumors, Genetic changes in endocrine tumors, Multiple endocrine neoplasia type 1, Multiple endocrine neoplasia type 2, Endocrine approach to a person treated for a malignant disease, Neuroendocrine tumors, Carcinoid syndrome, Molecular genetics of neuroendocrine tumors, Clinical presentation of neuroendocrine tumors of tumors, NET - Diagnostic procedure, Treatment of neuroendocrine tumors, GEP-NET, Insulin

<b>Mode of teaching</b>	<input checked="" type="checkbox"/> lectures <input checked="" type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises	<input checked="" type="checkbox"/> independent tasks <input checked="" type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> mentoring work
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<input type="checkbox"/> distance education	<input type="checkbox"/> other
<input type="checkbox"/> field teaching	

### Student obligations

Students are expected to attend all class sessions, as well as to take all the examinations. However, they are allowed for excused absences, totalling 30% of all classes.

### Monitoring student work

Attending classes	x	Class activity	x	Seminar work		Experimental work	
Written exam	x	Oral exam	x	Essay		Research	
Project		Continuous knowledge verification		Paper		Practical work	x
Portfolio							

### Grading and evaluation of student work during classes and of the final examination

Students' work is evaluated during classes and on the final exam. Students are evaluated numerically and descriptively (insufficient (1), sufficient (2), good (3), very good (4), excellent (5)). During the course, the student will be able to collect a maximum of 100 evaluation points. Students can earn a maximum of 20 points during classes through different forms of activities. At the final exam, students can obtain a maximum of 80 points. The final grade represents the sum of the grade points achieved during classes and on the final exam.

### Required reading

Basislehrbuch Innere Medizin. Kompakt, greifbar, verständlich. Braun J, Renz-Polster H; Urban & Fischer, Mchn: 2000.

### Additional reading

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### Number of copies of required literature in relation to the number of students currently attending classes in the course

Title	Number of copies	Number of students
Basislehrbuch Innere Medizin. Kompakt, greifbar, verständlich. Braun J, Renz-Polster H; Urban & Fischer, Mchn: 2000.	10	60

### Course evaluation procedures

The quality of course performance is monitored through an anonymous student survey on the quality of the organization and conduction of classes, the course content and the work of professors. The usefulness of the lectures from the students' perspective, the curriculum content, the professor preparedness, the clarity of the presentation, the amount of new content and the quality of the presentation are evaluated. The curriculum and its execution are administratively compared. The participation of students in lectures and exercises, as well as the excuses for missing classes, are controlled and analyzed.