GENERAL INFORMATION		
Course name	**Internal Medicine 4 - Nephrology**	
Course director	**Prof. Lada Zibar, MD, PhD**	
Assistants	Ivana Begić, MD	
Study program	**Integrated undergraduate and graduate university study program Medical Studies in German**	
Course status	Mandatory	
Year of study, semester	3rd year, 6th semester	
Credits allocated and form of instruction	ECTS student workload	**3**
	Number of teaching hours (L+S+E)	**50** (20+15+15)

COURSE DESCRIPTION

Course objectives

The aim of the course is to enable students to acquire knowledge related to the key principles of nephrology and treatment of nephrotic disorders. Students will become familiar with the epidemiology, pathophysiology and clinical manifestations of nephrotic diseases, as well as diagnostic and therapeutic procedures regarding certain diseases. A multidisciplinary approach to nephrotic diseases, evidence-based medicine and problem-oriented nephrology will be emphasized.

Course requirements

There are no specific requirements for this course except those defined in the study program curriculum.

Learning outcomes relevant to the study program

1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2

Expected learning outcomes *(5-10 learning outcomes)*

Knowledge

1. Identify major areas of nephrology and basic groups of nephrotic syndromes and diseases
2. Define specific groups of nephrotic syndromes and diseases, epidemiology and etiology
3. Describe and pathophysiologically explain the leading symptoms and signs of nephrotic syndromes and diseases
4. Select correct diagnostic procedures regarding specific nephrotic syndromes and diseases
5. Define the histopathologic findings of specific nephrotic syndromes and diseases
6. Critically evaluate the results of diagnostic tests in nephrology
7. Connect and integrate the knowledge from the clinical picture and the diagnostic procedure
8. Conclude on the correct diagnosis of a certain nephrotic disease
9. Plan the optimal type and sequence of therapeutic procedures
10. Predict the appropriate prognosis of the disease
11. Analyze the course, effects and outcomes of treatment

Skills

1. Identify the leading symptoms and signs of nephrotic syndromes and diseases
2. Appropriately take medical history relevant to nephrotic disease

3. Apply appropriate clinical examination procedures
4. Discuss clinical picture and interpret the differential diagnosis of the identified syndrome
5. Under supervision, complete different diagnostic and therapeutic procedures 6. Independently perform certain clinical skills according to the proscribed catalog
6. Manage the diagnostic procedure according to the appropriate algorithms
7. Optimally perform and direct treatment of nephrotic diseases
8. Keep patients' medical records
9. Participate in team, interdisciplinary and multidisciplinary clinical work

Course content

Clinical syndromes in nephrology, renal disease diagnostics and interpretation of findings (urine examination, renal function diagnostics). Acute renal injury, chronic renal disease, renal replacement therapy (etiology, clinical picture, diagnostic procedures and treatment of renal failure, prerenal, renal and postrenal causes of renal failure, contraindications for kidney transplantation, donor selection, immunosuppressive therapy, transplantation complications, problem-solving). Glomerular diseases (mechanism of glomerural damage, acute glomerulonephritis, rapidly progressive glomerulonephritis, chronic glomerulonephritis, minimal-change glomerulonephritis, focal segmental glomerulosclerosis, membranous nephropathy, membranoproliferative glomerulonephritis, mesangial proliferative glomerulonephritis, secondary glomerular diseases). Nephrolithiasis, Arterial hypertension, Disorders of water metabolism, electrolytes and acid-base status (stone classification, clinical picture, diagnostics, prevention and treatment of urinary stones, renovascular hypertension, abnormalities in laboratory urine test results, nephrotic and nephritic syndromes, renal failure, problem-solving). Tubulointerstitial diseases (acute tubulointerstitial nephritis, chronic tubulointerstitial nephritis). Urinary system infections, Renal tuberculosis, Urinary system tumors (infection caused by bacteria, parasites, protozoa, fungi, diagnosis, clinical picture and treatment of infections, prevention of infection development, etiology and development of renal tuberculosis, benign and malignant tumors of renal parenchyma, urinary tract tumors, problem-solving).

Form of instruction	☒lectures ☒seminars and workshops ☒exercises ☐distance learning ☐field course	☐individual assignments ☐multimedia and internet ☐laboratory ☐mentoring activities ☐other

Student obligations

Regular attendance and active participation in all forms of instruction are mandatory. For the successful conduction of seminars and exercises, a prior preparation of the student is required. Exercises can only be attended in prescribed work clothes (white coat). Classes are conducted at the prescribed time. It is not allowed to bring food and drinks to the exercises. It is forbidden to use mobile phones during classes as well as during examinations. Come to class prepared by studying the recommended literature for each unit and actively participate in all forms of instruction. The student must participate in at least 70% of classes to pass the course.

Monitoring student learning

Attendance	x	Active participation	x	Seminar paper		Experimental work	
Written exam	x	Oral exam	x	Essay		Research	
Project		Continuous assessment		Paper		Practical work	
Portfolio							

Assessment and evaluation of students during class and on the final exam

Students' performance will be evaluated during class and on the final exam. Students are evaluated numerically and descriptively (insufficient (1), sufficient (2), good (3), very good (4), excellent (5)). During classes, a student can earn a maximum of 100 points. Students can earn a maximum of 20 points during classes through different types of activities. On the final exam,

students can earn a maximum of 80 points. The final grade represents the sum of the points earned during classes and on the final exam.

Mandatory reading

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

Additional reading

The number of copies of mandatory reading in proportion to the number of students currently taking this course

Title	*Number of copies*	*Number of students*
Basislehrbuch Innere Medizin. Kompakt, greifbar, verständlich. Braun J, Renz-Polster H; Urban & Fischer, Mchn: 2000	*20*	*60*

Quality monitoring methods ensuring the acquisition of knowledge upon completion, skills and competences

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.