

GENERAL INFORMATION		
Course name	Internal Medicine 1 - Hematology	
Course director	Prof. Silva Zupančič-Šalek, MD, PhD	
Assistants	Asst. Prof. Vlatka Periša, MD, PhD Stefan Mrđenović, MD, PhD	
Study program	Integrated undergraduate and graduate university study program Medical Studies in German	
Course status	Mandatory	
Year of study, semester	3 rd year, 6 th semester	
Credits allocated and form of instruction	ECTS student workload	4
	Number of teaching hours (L+S+E)	55 (20+10+25)
COURSE DESCRIPTION		
Course objectives		
Learn symptoms, diseases and syndromes of hematologic system, their incidence, causes, diagnostic algorithms, prognosis, prevention and treatment.		
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		
<ol style="list-style-type: none"> 1. Classify, define, describe and distinguish between specific hematologic diseases as unique clinical entities; 2. Describe leading symptoms and signs of diseases of the hematologic system and connect them to specific clinical pictures and syndromes and interpret the basic pathophysiological mechanisms of the development of the most important clinical entities; 3. Present differential-diagnostic possibilities based on clinical symptoms and signs patients have; 4. Plan and select the proper diagnostic procedures in certain conditions, syndromes and diseases of the hematologic system and critically evaluate the results of diagnostic tests; 5. Connect and integrate the knowledge from the clinical picture and the diagnostic procedure and critically evaluate the correct diagnosis of diseases of the hematologic system; 6. Identify the basic principles of treatment and map out the most appropriate type and sequence of therapeutic interventions; 7. Critically evaluate various invasive and non-invasive treatment methods of specific diseases and provide arguments to the patient; 8. Predict the appropriate prognosis of a disease and analyze the course, effects and outcomes of medical treatment; 9. Recognize diagnostic and treatment methods in accordance with the principles of "evidence-based medicine" 		
Skills		
<ol style="list-style-type: none"> 1. Demonstrate the ability to independently take a medical history and perform a clinical examination of the hematologic system and determine a working diagnosis; 2. Identify the leading symptoms of hematologic diseases and identify the correlation between these symptoms and specific clinical entities; 		

3. Recognize the symptoms of a life-threatening condition in a patient and present how to provide care for them;
4. Become proficient in discussing the clinical picture and interpreting the differential diagnosis;
5. Become proficient in interpreting and discussing the patients' diagnostic findings;
6. Carry out certain clinical skills independently in accordance with the Clinical Skills Handbook;
7. Under supervision, complete different diagnostic and therapeutic procedures as outlined in the Clinical Skills Handbook;
8. Demonstrate the means for managing diagnostic and therapeutic procedures and monitoring patients in accordance with appropriate procedures (algorithms);
9. Keep patients' medical records;
10. Participate in team, interdisciplinary and multidisciplinary clinical work and demonstrate good communication skills with the patients, their companions and staff.

Course content

Hemostasis diseases (erythrocyte diseases, granulocyte diseases, monocyte and macrophage diseases, lymphocyte and plasma cell diseases, deficiency of coagulation factors). Splenomegaly, Neutropenia, Bleeding due to hemostasis disorders (congestive, hyperplastic, infiltrative, inflammatory and idiopathic splenomegaly, qualitative and quantitative granulocyte changes, coagulation factor disorder, problem-solving).

Exercise (management of patients in a hematology clinic, and in hematology department using previously acquired clinical propedeutics knowledge, and practical use of knowledge acquired in previous classes and seminars). Hematopoietic system, Anemia (hematopoietic system structure, hypoproliferative anemia, anemia due to erythrocyte maturation disorders, anemia with unknown and multiple mechanisms, anemia due to increased or accelerated erythrocyte breakdown). Hematologic disease diagnostics, Differential diagnostics and anemia therapy (biochemical hematology tests, cytologic and histological tests, culture of hematopoietic stem cells, immune tests, cytogenetic and molecular tests in hematology, radioisotope tests in hematology, replacement therapy, blood products and blood transfusion, problem-solving). Stem cell diseases, Diseases of lymphocytes and plasma cells (myelodysplasia, benign lymphatic system diseases, neoplastic diseases of lymphatic system, neoplastic disorders of cells secreting immunoglobulins). Enlarged lymph node, Lymphocytosis, Disproteinemia (differential diagnosis of enlarged lymph nodes, malignant lymphoma, Hodgkin's lymphoma, non-Hodgkin's lymphoma, increased lymphocyte formation, multiple myeloma, problem-solving). Acute leukemia, Transplantation in hematology, Chemotherapy principles (acute myeloid leukemia, acute lymphocytic leukemia, treatment program and complications of hematopoietic stem cell transplantation, assessment of the effectiveness of chemotherapy, methods of administration, results). Emergency conditions in oncology, Paraneoplastic syndrome (SVC syndrome, pericardial effusion/tamponade, spinal cord compression, airway obstruction, urinary tract obstruction, intestinal obstruction, hypercalcemia, syndrome of inappropriate antidiuretic hormone secretion, hypoglycemia, adrenal insufficiency, brain metastases, hemoptysis, endocrine paraneoplastic syndrome, hematologic, neurological, gastrointestinal, renal and cutaneous paraneoplastic syndrome, problem-solving). Supportive measures and quality of life of patients with malignant disease (nausea and vomiting, constipation and diarrhea, hiccup, dysphagia and anorexia, fluid recovery and dietary adjustment, respiratory disturbances, difficulty urinating, skin changes, mental and neurological disturbances). Myeloproliferative diseases, Leukocytosis, Thrombocytosis, Erythrocytosis (chronic myeloid leukemia, polycythaemia rubra vera, idiopathic myelofibrosis, primary hemorrhagic thrombocythemia, myelodysplasia, problem-solving).

Form of instruction	<input checked="" type="checkbox"/> lectures	<input type="checkbox"/> individual assignments
	<input checked="" type="checkbox"/> seminars and workshops	<input type="checkbox"/> multimedia and internet
	<input checked="" type="checkbox"/> exercises	<input type="checkbox"/> laboratory
	<input type="checkbox"/> distance learning	<input type="checkbox"/> mentoring activities
	<input type="checkbox"/> field course	<input type="checkbox"/> other

Student obligations

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**

<i>Title</i>	<i>Number of copies</i>	<i>Number of students</i>
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.