| GENERAL INFORMATION | | |
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| Course name | **Internal Medicine 7 - Gastroenterology** | |
| Course director | **Prof. Aleksandar Včev, MD, PhD** | |
| Assistants | Prof. Robert Smolić, MD, PhD | |
| 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 | **5** |
| | Number of teaching hours (L+S+E) | **65**(25+15+25) |

**COURSE DESCRIPTION**

**Course objectives**

Learn symptoms, diseases and syndromes of gastrointestinal 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***

1. Classify, define, describe and distinguish between specific gastrointestinal diseases as unique clinical entities;
2. Describe leading symptoms and signs of diseases of the gastrointestinal 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 gastrointestinal 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 gastrointestinal 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***

1. Demonstrate the ability to independently take a medical history, perform a clinical examination of the gastrointestinal system and determine a working diagnosis;
2. Identify the leading symptoms of gastrointestinal 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**

Approach to a patient with gastrointestinal disease, Diagnostic methods in gastroenterology (laboratory tests in gastroenterology and hepatology, ultrasound, endoscopy, radiological methods, radionuclide methods, functional tests in gastroenterology, problem-solving). Esophagus diseases: GERD, Ulcer disease (Candidiasis, herpetic stomatitis, recurrent canker sores, achalasia, esophageal spasm, reflux esophagitis, hiatal hernia, gastritis, peptic ulcer). Gastrointestinal bleeding (esophageal varices, peptic ulcer, gastric perforation, upper and lower gastrointestinal hemorrhage, problem-solving). Tumors of esophagus, stomach, colon (malignant and benign tumors of esophagus, stomach and colon, diagnosis, treatment and complications). Inflammatory bowel disease (Crohn's disease, ulcerative colitis, diagnosis, treatment and complications). Abdominal pain, Acute abdomen, Functional GIT diseases (pyloric stenosis, mechanical and paralytic ileus, acute abdomen, acute appendicitis, peritonitis, problem-solving). Viral hepatitis, Alcoholic liver disease, Cirrhosis (hepatitis classification, diagnosis, prevention and treatment, risk factors for development of alcoholic liver disease and liver cirrhosis and extrahepatic manifestation of cirrhosis). Ascites, Portal hypertension, Spontaneous bacterial peritonitis, NASH, Liver tumors, Liver transplantation (etiology factors in development, development and treatment, benign and malignant liver tumors, hepatocellular carcinoma, toxic and drug-induced liver injury, selection of patients, contraindications, liver transplantation techniques and complications, problem-solving). Small intestine tumors, Endocrine tumors of GIT (etiopathogenesis, clinical picture, diagnosis and treatment, carcinoid).
Malabsorption, Diarrhea, Gastrointestinal infections (malabsorption, maldigestion, malnutrition, diagnosis, acute diarrhea, infectious diarrhea, infectious diarrheal diseases, abdominal typhoid fever, parasitic diseases, problem-solving). Pancreatic diseases, Biliary tract tumors (cystic fibrosis, Shwachman syndrome, hereditary pancreatitis, gallbladder carcinoma, extrahepatic bile duct carcinoma). Icterus, Pancreatic tumors, Bile duct diseases (acute, chronic and post-traumatic pancreatitis, pancreatic cancer and pancreatic neuroendocrine tumors, congenital bile duct anomalies, hyperplastic cholecystoses, gallstones, acute and chronic cholecystitis, cholangitis, problem-solving).

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| **Form of instruction** | ☒ lectures<br>☒ seminars and workshops<br>☒ exercises<br>☐ distance learning<br>☐ field course | ☐ individual assignments<br>☐ multimedia and internet<br>☐ laboratory<br>☐ mentoring activities<br>☐ 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**

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| 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.