

GENERAL INFORMATION		
Course name	Clinical Epidemiology	
Course director	Prof. Maja Miškulin, MD, PhD	
Assistants	Asst. Prof. Ivan Miškulin, PhD Terezija Berlančič, MD	
Study program	Integrated undergraduate and graduate university study program Medical Studies in German	
Course status	Elective	
Year of study, semester	4 th year, 8 th semester	
Credits allocated and form of instruction	ECTS student workload	1
	Number of teaching hours (L+S+E)	15 (10+5+0)
COURSE DESCRIPTION		
Course objectives		
<p>Familiarizing students with the definition, scope and general clinical epidemiology procedures. The acquisition of knowledge of the relationship between quantitative and qualitative data and Bayesian logic in the interpretation of clinical data. Familiarizing students with the principles of clinical trials. The acquisition of knowledge of fundamental types of clinical trials, subject recruitment, monitoring and implementing the procedure, monitoring the outcome and the possibility of bias in clinical trials. The acquisition of knowledge of quantitative assessment of the causality and etiology of the disease. The acquisition of knowledge of quantitative assessment of diagnostic procedures. The acquisition of knowledge of diagnostic tests and screening tests. The acquisition of knowledge of quantitative assessment of disease prognosis. The acquisition of knowledge of quantitative assessment of therapeutic procedures (assessment of the effectiveness and harmfulness of the administered treatment). Familiarizing students with evidence-based medicine (EBM). The acquisition of knowledge of the objective and purpose of EBM as well as its scope and limitations. The acquisition of knowledge of EBM procedures (setting out relevant issues or identifying problems; evidence collection; critical appraisal of evidence; in particular regarding the etiology of disease, diagnostic procedures, therapy effectiveness and harmfulness and disease prognosis).</p>		
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		
1.1, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 3.5, 4.2		
Expected learning outcomes (5-10 learning outcomes)		
<p>Upon successful completion of this course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Define clinical epidemiology and EBM. 2. Describe the significance of clinical epidemiology and EBM for clinical practice. 3. Describe criteria for causality. 4. Calculate the accuracy of the diagnostic test. 5. Assess the effectiveness of the applied therapeutic procedure and investigate its harmfulness. 6. Assess the effectiveness of the applied preventive action for the individual and the population. 		
Course content		
Introduction to clinical epidemiology: scope, principal procedures. Relationship between quantitative and qualitative data, Bayesian logic in the interpretation of clinical data. Principles		

of clinical trials: fundamental types of clinical trials, recruitment, monitoring and outcome. Bias in clinical trials. Causality assessment: clinical trials and quantitative assessment. Diagnostic methods: clinical trials and quantitative judgment. Therapeutic procedures: clinical trials, assessment of effectiveness and harmfulness. Disease prognosis: clinical trials and quantitative judgment. EBM, scope and limitations, procedures, setting out issues, finding evidence. Critical assessment of scientific papers on diagnostic procedures. Critical assessment of scientific papers on therapeutic procedures, effectiveness and harmfulness. Critical assessment of scientific papers on prognosis and disease causality.

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 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		Active participation		Seminar paper	x	Experimental work	
Written exam	x	Oral exam		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 60 points during classes through different types of activities. On the final exam, students can earn a maximum of 40 points. The final grade represents the sum of the points earned during classes and on the final exam.

Mandatory reading

1. Kreienbrock L. Epidemiologische Methoden, Spektrum Akademischer Verlag; 5 edition, Deutschland, 2012.

Additional reading

1. Gamulin S. Klinička istraživanja – klinička epidemiologija [Clinical Studies – Clinical Epidemiology]. Medicinska Naklada, Zagreb, 2015

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>
Kreienbrock L. Epidemiologische Methoden, Spektrum Akademischer Verlag; 5 edition, Deutschland, 2012.	A purchased license for online textbooks shall be used https://bfdproxy48.bfd-online.de/login.htm?back=http%3a%2f%2fpartner.bfd-online.info.bfdproxy48.bfd-online.de%2fameos%2fbfdAboGateway%3fabold%3d264117 Access will be granted to all students enrolled in the study program	

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.