

GENERAL INFORMATION		
Course name	Medical Informatics 1	
Course director	Asst. Prof. Ivan Miškulin, PhD	
Assistants	Terezija Berlančić, MD	
Study program	Integrated undergraduate and graduate university study program Medical Studies in German	
Course status	Elective	
Year of study, semester	5 th year, 9 th semester	
Credits allocated and form of instruction	ECTS student workload	1
	Number of teaching hours (L+S+E)	15 (5+0+10)
COURSE DESCRIPTION		
Course objectives		
Learning about basic concepts of information technology, medical data management, theory and information processing, computer communication and informing.		
Course requirements		
There are no specific requirements for this course except those defined in the study program curriculum.		
Learning outcomes at the Programme level		
2.1., 2.2., 2.3., 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. Describe and relate basic concepts of information technology 2. Name and explain the components of a medical record 3. Analyze the impact of new technologies on the management of medical records and electronic health records 4. Explain the regulatory requirements for health information systems (interoperability, information security, protection of personal data, quality indicators) 5. Name the elements of information security and protection of personal data 6. Prepare unformatted medical records 7. Use applications to collect, process and present medical data 8. Search electronic databases containing professional and scientific publications 9. Manage and present medical data. 		
Course content		
<p>Basic concepts of information technology, medical data management, theory and information processing, computer communication and informing. Application of medical informatics procedures. Importance, organization and use of medical language, coding and classification. The structure and importance of electronic patient records and health records. Computer analysis of biological signals and medical images. The construction and use of medical databases and databases with biomedical scientific papers.</p> <p>Strategies of management and classification of medical knowledge. Evidence-based medicine. Health information systems in primary and hospital health care. Clinical decision support systems and their use in treating patients and in acquiring, processing and presenting medical knowledge.</p> <p>The structure and role of medical models and modeling. Safety and confidentiality of medical data.</p>		
Form of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises	<input type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and Internet <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	x	Seminar paper	x	Experimental work	
Written exam	Oral exam		Essay		Research	
Project	Continuous assessment		Paper		Practical work	x
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. Dugas M. Medizininformatik: Ein Kompendium für Studium und Praxis, Springer Vieweg; 1. Aufl., Deutschland, 2017

Additional reading

1. van Bommel JH, Musen MA, editors. Handbook of Medical Informatics. Heidelberg: Springer-Verlag; 1997
 2. Coiera E. Guide to Health Informatics. London: Arnold; 2003
 3. Shortliffe E, Cimino JJ, editors. Biomedical Informatics: Computer Applications in Health Care and Biomedicine. New York: Springer; 2006

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
Dugas M. Medizininformatik: Ein Kompendium für Studium und Praxis, Springer Vieweg; 1. Aufl., Deutschland, 2017	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.