Faculty of Medicine / STOMATOLOGY / INFORMATICS AND STATISTICS IN DENTISTRY

Course:	INFORMATICS AND STATISTICS IN DENTISTRY			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
11155	Mandatory	5	2	1+1+0
Programs	STOMATOLOGY			
Prerequisites	None			
Aims	The goal of the course is for students of the Faculty of Medicine to master basic statistical terms that explain the various features and modalities used in statistical terminology. Also, the goal is for students to master scientific methodology and modern computer tools in order to be able to set research hypotheses and draw valid and reliable conclusions.			
Learning outcomes	After completing the one-semester course and passing the exam in the subject Medical Statistics I informatics, a Medicine student should have the following learning outcomes: 1. Know how to explain the basics concepts of mathematical statistics. 2. Computes statistics on a given sample using appropriate software packages. 3. Performs processing, sorting, grouping, tabulation and graphical display data using appropriate software packages. 4. Tests statistical hypotheses.			
Lecturer / Teaching assistant	Savo Tomovic			
Methodology	Lectures, exercises in the computer classroom / laboratory. Learning and independent preparation of practical tasks. Consultations.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction. Basic terms in statistics. Basic terms in computer science.			
I week exercises	Introduction. Basic terms in statistics. Basic terms in computer science.			
II week lectures	Data collection. Tabular and graphical presentation of data.			
II week exercises	Data collection. Tabular and graphical presentation of data.			
III week lectures	Absolute and relative numbers. Measures of central tendency and distribution of statistical data.			
III week exercises	Absolute and relative numbers. Measures of central tendency and distribution of statistical data.			
IV week lectures	Measures of variation of statistical series. Measures of asymmetry and flattening of frequency distributions.			
IV week exercises	Measures of variation of statistical series. Measures of asymmetry and flattening of frequency distributions.			
V week lectures	Basic concepts of probability.			
V week exercises	Basic concepts of probability.			
VI week lectures	Mathematical expectation. Basic concepts of combinatorics.			
VI week exercises	Mathematical expectation. Basic concepts of combinatorics.			
VII week lectures	Theoretical probability distributions.			
VII week exercises	Theoretical probability distributions.			
VIII week lectures	Population and sample. Types of statistical samples.			
VIII week exercises	Population and sample. Types of statistical samples.			
IX week lectures	Colloquium.			
IX week exercises				
X week lectures	The importance and use of modern digital technologies in healthcare.			
X week exercises	The importance and use of modern digital technologies in healthcare.			
XI week lectures	Digitized health care sector. Digital competencies of doctors, selection and use of digital tools and systems and their critical evaluation.			
XI week exercises	Digitized health care sector. Digital competencies of doctors, selection and use of digital tools and systems and their critical evaluation.			
XII week lectures	Data mining and predictive medicine.			

XII week exercises	Data mining and predictive medicine.
XIII week lectures	Machine learning and data mining as tools for epidemiological surveillance.
XIII week exercises	Machine learning and data mining as tools for epidemiological surveillance.
XIV week lectures	The use of digital technologies and algorithms for intelligent data processing in biomedicine.
XIV week exercises	The use of digital technologies and algorithms for intelligent data processing in biomedicine.
XV week lectures	The importance of collecting large sets of digital data, challenges in analyzing and processing large sets of dig. data.
XV week exercises	The importance of collecting large sets of digital data, challenges in analyzing and processing large sets of dig. data.
Student workload	Teaching and final exam: (2.66 hours) x 16 = 42.56 hours Necessary preparations before the beginning of the semester (administration, enrollment, certification): (2.66 hours) x 2 = 5.32 hours Total workload for the course: 2 x 30 = 60 hours Load structure: 42.56 hours (classes and final exam) + 5.32 hours (preparation) + 12 hours (supplementary work)

Per week	**Per semester**
2 credits x 40/30=2 hours and 40 minuts 1 sat(a) theoretical classes 0 sat(a) practical classes 1 excercises **0 hour(s) i 40 minuts** of independent work, including consultations	Classes and final exam: **2 hour(s) i 40 minuts x 16 =42 hour(s) i 40 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **2 hour(s) i 40 minuts x 2 =5 hour(s) i 20 minuts** Total workload for the subject: **2 x 30=60 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **12 hour(s) i 0 minuts** Workload structure: **42 hour(s) i 40 minuts (cources), 5 hour(s) i 20 minuts (preparation), 12 hour(s) i 0 minuts (additional work)**
Student obligations	The student is obliged to attend lectures and exercises. Completion of homework and seminar papers, as well as taking the colloquium and final exam are mandatory.
Consultations	
Literature	
Examination methods	5 homework assignments are evaluated with a total of 10 points (2 points for each homework assignment), a colloquium of 40 points, a final exam of 50 points. A passing grade is obtained if at least 50 points are accumulated cumulatively.
Special remarks	
Comment	

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points