

## **MEDICAL INFORMATICS AND STATISTICS**

### **Topics for Final Examination**

1. Informatics, Medical Informatics
2. Information Systems, Information Technologies
3. Information, Information Units
4. eHealth, priorities in eHealth
5. Telemedicine, e-Learning in medicine
6. Data protection in information systems, electronic signature
7. Databases, design and utilization of databases
8. Tables in database, table fields, types of fields and their properties
9. Relations between tables
10. Forms in database, types of forms
11. Filters and sort functions
12. Queries in database, types of queries, selection criteria
13. Reports in database, data summary
14. Basic terms in statistics, data acquisition, survey and experiment
15. Descriptive statistics, measures of location, variability and shape
16. Data sampling and selection, frequency, histogram
17. Theory of probability
18. Random variables, distribution function, density function
19. Theoretical distribution models of random variables
20. Normal distribution, tests for normality
21. Estimation of population parameters
22. Theoretical principles of statistical hypotheses
23. Hypothesis tests for a mean
24. Hypothesis tests for a variance
25. Analysis of variance
26. Regression and correlation analysis
27. Evidence Based Medicine
28. Terminology in medicine
29. Electronic health records in out-patient clinics
30. Types of information systems used in health care institutions

### Assessment of Learning Achievements

Only the students who passed out all the exercises and achieved at least 60% from each test during winter and summer terms are allowed to register for the final examination.

The final examination consists of written test (test from theory) and practical test. The practical test can be done only by the students who reached at least 60% from written test.

The overall assessment of the course respects results from assessment tests done during exercises and results of examination tests as stated in the following table.

Activity	Results to be counted	Portion in overall assessment	Note
Exercises	Continuous assessment	20 %	Average of points (%) the student obtained from tests during winter and summer terms.
Examination	Written test	40 %	Only the students with 60 or more % from written test will be allowed to take the practical test.
	Practical test	40 %	Students have to solve practical tasks using software they used during exercises.

Based on the amount of obtained points (%) the student will get the grade:

Assessment levels		Overall assessment scale	Numeric value
ECTS	Text and explanation		
A	<b>excellent</b> - outstanding results	93 – 100 %	1
B	<b>very good</b> – above average	85 – 92 %	1,5
C	<b>good</b> – average scores	77 – 84 %	2
D	<b>satisfactory</b> – acceptable results	69 – 76 %	2,5
E	<b>sufficient</b> – performance meets the minimum criteria	60 – 68 %	3
FX	<b>fail</b> – further work is required	< 60 %	4

Last modified: 8.2.2018

doc. Ing. Jaroslav Majerník, PhD.  
Head of department