Specification of the course for the Book of courses

Study program		Applied statistics	
Title of the course		**Biostatistics**	
Teachers (for lectures)		Zoran Milošević	
Teacher/fellow teacher (for exercises)			
ESPB	6	**Status of the course (obligatory (O) /elective (E))**	E (Obligatory in Module Biomedicine)

Conditions	
Aim of the course	The aim of this course is to master the basic concepts and understanding of the principles, techniques and methods of biostatistics and to apply them in biology, medicine and related fields.
Course outcomes	This subject enables students to understand the principles of statistics in biology, medicine and related disciplines, and to apply the appropriate statistical technique in order to solve specific problems. Students will be trained to use appropriate statistical software that is specific for use in these areas and will be introduced to the corresponding characteristic examples.
Content of the course	
Theoretical classes	Hypothesis testing in the case of one, two or more samples: analysis of variance. Test differences between pairs. Multiple comparisons. Analysis of variance in the case of two-dimensional and multi-dimensional classification. Transformation of data. Nonparametric methods of analysis of variance. Hierarchical analysis of variance. Simple linear regression, comparison of simple regression models. Multiple regression and correlation: Polynomial regression. Logistic regression. Comparison of observed frequencies with the theoretical distribution. Categorical data and χ^2 – test. Dichotomous variables. Testing randomness
Practical classes	Presentation of models and methods characteristic for biostatistics. Solving of characteristic problems. Getting known specific software.
References	
1	Zar, J. H. (2009). Biostatistical Analysis, Prentice Hall
2	Chernick, M. R., Friis, R. (2003). Introductory Biostatistics for the Health Sciences Modern Applications Including Bootstrap, Princeton, New Jersey
3	GP Quinn and MJ Keough, 2002. *Experimental Design and Data Analysis for Biologists*. Cambridge: Cambridge University Press
4	Dawson and Trapp: Basic and Clinical Biostatistics, 4th edition. Lange Medical Books, 2004.

The number of contact hours per week during the semester / trimester / year

Lectures	**Exercises**	**DON**	**Research work**	**Other classes**
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Teaching methods	Lectures, exercises, analysis of examples with applications, writing reports.

Evaluation of knowledge (maximum score 100)

Pre exam duties	**points**	**Final exam**	**points**
Activity during lectures	5	**Oral exam**	40
Activity during exercises	15		
colloquia	20		
seminars	20		