Specification of the course for the Book of courses

Study program		Applied statistics	
Title of the course		Statistical Methods in Medicine II	
Teachers (for lectures)		Tatjana Ille	
Teacher/fellow teacher (for exercises)		Milan Gajić, Tamara Naumović	
ESPB	6	**Status of the course (obligatory (O) /elective (E))**	E

Conditions	
Aim of the course	The aim of the course is to introduce to the student more complex biostatistical methods, calculations, and survival functions. Understanding of specific distributions and functions, statistical analysis of medical data
Course outcomes	Student will be able to apply statistical method for corresponding complex statistical analysis, as well as survival analysis and decision making.
Content of the course	
Theoretical classes	Data transform. One-way Analysis of variance. Two and three-way Analysis of variance. Non-parametric methods of Analysis of variance. Hierarchical analysis of variance. Multiple regression and correlation. Analysis of covariance. Multivariate analysis of variance. Survival analysis (time passed till particular event/outcome). Factorial analysis. Logistic regression. Cluster analysis.
Practical classes	Understanding of research from different areas of medicine in which more complex statistical methods are used, survival analysis through analyzing of scientific papers, usage of statistical software for estimation of survival functions, application of survival analysis on problems in medicine.
References	
1	Ерић-Маринковић Ј, Дотлић Р, Јаношевић С и сар. Статистика за истраживаче у области медицинских наука. Четврто издање, Медицински факултет, Београд, 2011
2	Dawson and Trapp: Basic and Clinical Biostatistics, 4th edition. Lange Medical Books, 2004.
3	D. Collett: Modeling Survival Data in Medical Research, 2nd Edition, Chapman & Hall/CRC
4	T. M. Therneau P. Grambsch: Modeling Survival Data: Extending the Cox Model (Statistics for Biology and Health), Springer Verlag, 2000.
5	P. D. Allison: Survival Analysis Using the SAS System: A Practical Guide, SAS Publishing, 1995.

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

Lectures	Exercises	DON	Research work	Other classes
2	2	----	------	------

Teaching methods	Lectures and exercises, case studies, writing reports about performed analysis

Evaluation of knowledge (maximum score 100)

Pre exam duties	points	Final exam	points
activity during lectures	5	Oral exam	40
practical work	15		
colloquia	20		
seminar	10		