Specification of the course for the Book of courses

Study program	Applied statistics	
Title of the course	**Multivariate analysis**	
Teachers (for lectures)	Biljana Popović	
Teacher/fellow teacher (for exercises)	Predrag Popović	
ESPB	6	**Status of the course (obligatory (O) /elective (E))**	O

Conditions	
Aim of the course	This course aims to provide students with basic knowledge of multivariate methods and to gain the ability to analyze multidimensional data.
Course outcomes	Upon completion of the course, students should be able to understand and apply the theory of multivariate normal distribution, multivariate analysis of variance and multivariate regression. Student will be able to apply different classification and discrimination, such as methods of cluster analysis and discriminant analysis.

Content of the course

Theoretical classes	Multidimensional normal distribution. Parameters of višedimezionalne normal distribution. Distribution Uišarta. The distribution of Hotelling. Multiple regression. Probit analysis. MANOVA. Discriminant analysis. Canonical correlation analysis. Factorial MANOVA. Principal components analysis. Factor analysis. Cluster analysis.
Practical classes	Tasks and problems are solved, the practical lessons follow the content of teaching, ie. theoretical instruction. Using statistical software for multivariate analysis.

References	
1	Biljana Popović: Matematička statistika i statističko modelovanje, Prirodno-matematički fakultet, Niš, 2003.
2	Srivastava M. S., Carter E. M.: An introduction to applied multivariate statistics, Elsevier Science Publishing Co., New York, 1983.
3	Härdle W., Simar L.:Applied Multivariate Statistical Analysis, Springer-Verlag, Berlin Heidelberg, 2003.
4	Johnson R. A., Wichern D. W.: Applied Multivariate Statistical Analysis, 4th edition, Prentice Hall, 1998.

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, writing the statistical reports

Evaluation of knowledge (maximum score 100)

Pre exam duties	**points**	**Final exam**	**points**
Activity during lectures	5	**Oral exam**	40
Activity during exercises	5		
colloquia	30		
seminars	20		