

Specification of the course for the Book of courses

Study program		Applied statistics	
Title of the course		Planning and analysis of experiments	
Teachers (for lectures)		Aleksandar Nastić	
Teacher/fellow teacher (for exercises)		Predrag Popović	
ESPB	6	Status of the course (obligatory (O) /elective (E))	0
Conditions			
Aim of the course	The course aims to enable students to plan an experiment using a scientific approach. Analysis and understanding of different approaches to the planning of the experiment.		
Course outcomes	Students will be able to choose an appropriate plan of experiments based on the observed problems. The student will master the skills necessary for expert analysis of factorial experiments, including selection of influential factors and models.		
Content of the course			
Theoretical classes	Introduction to experiments. The strategy of experimentation. Fundamentals of planning experiments. Simple comparative experiments. Experiments with a single factor. Analysis of variance. Nonparametric methods of analysis of variance. A randomized block layout. Latin squares. Factorial plans. 2k factorial plans. A partial factorial experiments with two levels. Experiments with random factors. Hierarchical plan and plot plan divided.		
Practical classes	Practical instructions follows the course content, ie. theoretical instructions. Using of statistical software. The analysis of case studies related to sampling.		
References			
1	Montgomery, D. C.: Design and Analysis of Experiments, 5th Edition, John Wiley and Sons, Inc., New York, 2001.		
2	Cox, D., Read, N.: The theory of the design of experiments, Chapman and Hall, 2000.		
3	Weber, D., Skillings, J.: A first course in the design of experiments, CRC Press, 2000.		
The number of contact hours per week during the semester / trimester / year			
Lectures	Exercises	DON	Research work
2	2	----	-----
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
exercises	5		
homeworks	20		
seminars	30		