

Program	Level of studies		Second cycle	
	Program name		Physics	
Course name	DATA PROCESSING AND MODELING IN PHYSICS			
Course ID	Semester	Course status	ECTS credits	L+E
PCM9611	I	MANDATORY	6	3+2
Lecturer				
Aims and expected learning outcomes	<p>The aim of the course is to teach the student to analyze and process physical data and numerically simulate physical processes.</p> <p>After mastering the course, the student use suitable program packages for statistical data processing; student can choose a suitable statistical hypothesis and test it;</p>			
Course content				
<p>The concept of random variable. Discrete and continuous random variables and their moments. Special probability distributions: the binomial, geometric, Poisson, the normal, Lognormal, gammadistribution. Sampling theory: random sample, distribution of the mean of the sample. Standard deviation (error) of the mean of the sample. Point estimation. Interval estimation for the mean and variances. Test of statistical hypotheses. Theoretical distribution and empirical data. Correlation and regression analysis. ANOVA.</p>				
Student workload (hours)			Grading	
Lectures and Exercises	75	Assessment method	Points	
Exam preparation	75	Midterm exams	50	
Total	150	Final exam	50	
		Total	100	
Literature				
1. Ratomir Paunović i Radovan Omorjan, Osnove inženjerske statistike, Univerzitet u Novom Sadu, electronic edition				
Remarks				
The student must win a minimum of 55% of points on both midterm exam and final exam in order to successfully pass the exam.				