Type and level of studies: PhD				
Title of the study program: (303) Statistics				
Subject title: Theory of statistical Inference I D				
Subject code: DTSZ				
Number of ECTS: 9				
Subject status (Compulsory / Elective):				
Teacher/s (Name, last name): Ljiljana M. Petrović				
Number of active teaching lessons:				**Other lessons**
Lectures:	**Practice classes**: 3	**Other forms of teaching**:	**Study research work**: 3	
Prerequisite:				

Subject objective:

This course gives an extensive knowledge and understanding of statistics needed for further studies in statistics and applications.

Subject outcome (gained knowledge):

To complete this course student should be able to calculate quantities such as probability, mean, point estimate, test statistics and p-values given data, use the statistical software simulating random variables and to analyze data with statistical methods. Also, the student should be able to implement and further develop statistical method for a given projects.

Subject content/structure:

1 .Sample space and events; 2. Conditional probability and independent events; 3. Random variables (Discrete random variables, Continuous random variables ; 4. Multivariate distributions; 5. Marginal and conditional distribution; 6. Independent random variables; 7. Expected value; 8. Moments and central moments; 9. Probability and moment generating functions; 10. Limit theorems (Law of large numbers Central limit theorem); 11. Random sample. Statistics. Empirical (sample) distribution function.; 12. Methods of point estimation (the method of moments, the method of maximum likelihood). Interval estimation; 13. Bayesian estimation; 14. Testing a statistical hypothesis;
15. Nonparametic methods.

Teaching methods:

Grading (maximum number of points 100)			
Pre-examination obligations	**Points**	**Final exam**	*Points*
Activities during lectures		**Written exam**	
Practice lessons	40	**Oral exam**	60
Colloquium/a		....	
Semester papers			
Literature:			
No.	**Author**	**Title**	**Publisher**	**Year**
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1.	Petrovic, Lj.	Probability theory (in serbian)	Faculty of Economic, Belgrade	2016.
2.	Petrovic, Lj	Theoretical	Faculty of Economic,	2015..

		statistics: Theory of statistical inference (in Serbian)	Belgrade	
3.	Freund J.E	Mathematical Statistics with Applications, (6th ed.	Prentice-Hall International, London	2004.
4.	R.V. Hogg, J.W. McKean, A.T. Craig	Introduction to Mathematical Statistic, 6th ed.	Upper Saddle River, Pearson Prentice Hall	2005.
5.	J. Shao	Mathematical Statistics	Springer-Verlag	2003.
6.	V.K. Rohatgi	An Introduction to Probability and Mathematical Statistics J	Wiley, New York	1976.