Type and level of studies: PhD				
Title of the study program: (303) Statistics				
Subject title: Statistical analysis I D				
Subject code: DSTA				
Number of ECTS: 9				
Subject status (Compulsory / Elective): 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 is an extension of some knowledge of probability and statistics courses from undergraduate academic studies.

Subject outcome (gained knowledge):

To complete this course the student should be able to formulate, explain and give examples of the fundamental concepts of probability and statistics; to analyze data with statistical methods in different areas (macroeconomics, microeconomics and finance).

Subject content/structure:

1.Sample space and events; 2. Probability of an event; 3. Conditional probability and independent events; 4. Random variables; 5. Discrete random variables; 6. Continuous random variables;
7. Multivariate distributions; 8. Marginal and conditional distribution; 9. Independent random variables;
10. Expected value; 11. Conditional expectation; 12 Martingales; 13. Moments and central moments;
14. Covariance and correlation; 15. Regression; 16. Probability and moment generating functions;
17. Limit theorems (Law of large numbers Central limit theorem); 18. Random sample. Statistics. Empirical (sample) distribution function.; 19. Methods of point and interval estimation; 20. Testing hypothesis; 21. Analysis of variance; 18. VaR – value at risk.

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
1.	Petrovic, Lj.	Probability theory (in Serbian)	Faculty of Economic, Belgrade	2016.
2.	Petrovic, Lj	Theoretical	Faculty of Economic, Belgrade	2015..

		statistics: Theory of statistical inference (in Serbian)		
3.	Freund J.E	Mathematical Statistics with Applications, (6th ed.	Prentice-Hall International, London	2004.