Program	Level	First cycle		
	Name of the program	All study programs		

COURSE

Course title	**Advanced Statistical Methods**			
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)
AMAT520	III	Mandatory course	8	2+2+1
Lecturer				
Course Goals	Non-linear regression models and factor analysis			
Learning Outcomes	application			

COURSE CONTENT

- Non-linear regression models, Logit, Probit and Tobit models
- Factor analysis (principal components method, types of variances and matrices in factor analysis, factor extraction methods, factor analysis of common factors: image analysis, factor analysis of maximum credibility)
- Cluster analysis (similarity measures, hierarchical methods (simple linkage, complete linkage, average linkage between and within groups), non-hierarchical methods (K-means), multidimensional scaling)
- Discrimination analysis (Fisher's discrimination function, discrimination of 2 populations, discrimination of multiple populations)
- Software solutions

LITERATURE

[1] Fulgosi A.: Faktorska analiza, Mladost, Zagreb, 1984.
[2] Kovačević Z.: Multivarijaciona analiza, Ekonomski fakultet, Beograd, 1994.
[3] Šošić, I.: Primijenjena statistika, Školska knjiga, Zagreb, 2004.
[4] Johnson, R. A., Wichern, D. W.: Applied Multivariate Statistical Analysis, Prentice-Hall International Ed., New Jersey, 1998.
[5] Mardia, K. V., Kent, J. T., Bibby, J. M.: Multivariate Analysis, Academic Press Inc.,London, 1980.

STUDENT WORKLOAD (hours in a semester)

Lectures	30	Tutorial	45	Individual work	125	T o t a l	200

GRADING			REMARKS	
Criterion	Maximum points	Minimum points		
Midterm exam (Tests)	50	27,5		
Final exam	50	27,5		
T o t a l	100	55		