Program	Level	Short cycle		
	Name of the program	Information Technologies		

COURSE

Course title	**Statistics**			
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)
IT 180	II	Mandatory course	7	2+1+2
Lecturer				
Course Goals	An introduction to statistics			
Learning Outcomes	Application of statistics			

COURSE CONTENT

- Classical definitions of probability,
- Space of elementary events,
- Conditional probability, total probability formula and Bayes formula,
- Discrete random variables,
- Examples of important discrete distributions,
- Mathematical expectation of discrete random variables,
- Non-parametric tests; Sign test; Rank Test; Mann-Whitney-Wilcoxon test; Runs test,
- $\chi 2$-test,
- Kolmogorov-Smirnov test,
- Analysis of variance; Kruskal-Wallis and Friedman test,
- Linear regression model,
- Inferential statistical analysis of the linear regression model,
- Multiple linear regression model,
- Analysis of the multiple linear regression model,
- Software support in regression models.

LITERATURE

[1] Sheldon Ross, A first course in probability, Prentice Hall, 2013
[2] Šošić, I.: Primijenjena statistika, Školska knjiga, Zagreb, 2004
[3] Šošić, I., Serdar,V.: Uvod u statistiku, Školska kjiga, Zagreb, 2002
Recommended:
[1] Fikret Čunjalo, Uvod u teoriju vjerovatnoće sa riješenim zadacima, PMF Sarajevo, 2013.
[2] Ash B.Robert, Basic Probability Theory, Dover Publications Inc. Mineola, New York, 2008.
[3] R.Christensen, Advenced Linear Modeling, Springer Verlag,2001.
[4] H.T.Nguyen, G.S.Rogers, Fundamentals of Mathematical Statistics, Springer Verlag, 1989.
[5] A.Sen,M.Srivastava, Regression analysis, Springer Verlag, 1990.
[6] Ž.Pauše, Uvod u matematičku statistiku, Školska knjiga, Zagreb, 1993.
[7] M.Bilodeau, D.Brenner, Theory of Multivariate Statistics, Springer Verlag, 1999.
[8] G.McPearson, Applying and Interpreting Statistics, Springer Verlag,2001.

STUDENT WORKLOAD (hours in a semester)

Lectures	30	Exercises	45	Individual work	100	T o t a l	175

GRADING			REMARKS	
Criterion	Maximum points	Minimum points		
Tests	40	22		
Seminar	10	5,5		
Final exam	50	27,5		
T o t a l	100	55		