

### DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	<b>Statistics in Transport</b>				
<b>Head of course</b>	<b>PhD Sanja Raspor Janković, Senior Lecturer</b>				
<b>Study programme</b>	<b>Professional undergraduate study Road Transport</b>				
<b>Status of a course</b>	Obligatory				
<b>Year of study</b>	1.	<b>Semester</b>	II	<b>ECTS credits</b>	4
<b>Teaching plan (L + E + S+ Pr)</b>	2L+1E				
<b>Goals of a course</b>					
Acquire the theoretical and practical knowledge required to perform statistical data analysis and to interpret the results obtained.					
<b>Conditions for enrolling course</b>					
No conditions					
<b>Learning outcomes on a level of a study programme which includes course</b>					
Outcome 1: Use mathematical and statistical methods in traffic engineering and traffic research. Outcome 4: Analyse and evaluate the economic aspect in the traffic engineering practice. Outcome 7: Conduct field research in road transport and interpret the result. Outcome 14: Independently present professional content on oral, written and graphical basis using the usual tools in Croatian and/or foreign language.					
<b>Expected learning outcomes on a level of a course</b>					
1. Analyse qualitative data using descriptive statistics methods. 2. Analyse quantitative data using descriptive statistics methods. 3. Determine correlation and regression between observed variables. 4. Analyse the movement of an observed phenomenon over a period of time. 5. Conduct a statistical analysis of the collected data and interpret the obtained results.					
<b>Content of a course</b>					
Introduction with descriptive statistical analysis. Basic terms. Statistical data. Data ordering. Tabulation. Statistical graphics. Relative numbers. Analysis of numerical series by methods of descriptive statistics. Middle values. Dispersion measures. Asymmetry measures. Roundness measures. Sampling method. Parameters assessment (arithmetic mean, total and proportions of a basic set). Testing of hypothesis of arithmetic mean and proportions of a basic set. Fundamentals of regression and correlation analysis. Simple linear regression model. Simple linear correlation model. Scatter diagram. Sperman's coefficient of rank correlation. Basic analysis of time series. Definition of time series. Graphic presentation and comparison of time series. Dynamics indices. Individual indices (chain and basic indices). Joint indices. Linear trend model.					
<b>Teaching modes</b>	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____		
<b>Comments</b>					
<b>Students' obligations</b>					
Prerequisite for taking the full exam at the exam: follow the instructions of the teacher to collect and analyze the collected data on the selected topic (Outcome 5)					
<b>Grading, evaluation and monitoring of students' work continuously during lectures and exams</b>					
Grading is based upon evaluation of course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of students. <b>Continuous check-up:</b>					

Outcomes	Pre-exam I	Pre-exam 2	Test	Home assignment	Threshold	Max
Outcome 1	30 %		4 %		17 %	34 %
Outcome 2		24 %	4 %		14 %	28 %
Outcome 3		10 %	4 %		7 %	14 %
Outcome 4		10 %	4 %		7 %	14 %
Outcome 5				10 %	5 %	10 %
Percentage of ECTS	1	2	0,5	0,5		
Total	30 %	44 %	16 %	10 %	50 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

**Exam term:**

Outcomes	Written exam	Oral exam	Max
Outcome 1	34 %		34 %
Outcome 2	28 %		28 %
Outcome 3	14 %		14 %
Outcome 4	14 %		14 %
Outcome 5	6 %	4 %	10 %
Percentage of ECTS	3,8	0,2	4
Total	96 %	4 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

**Grading:**

A student has passed the exam if he has acquired at least 50% of anticipated credits of a specific learning outcome. If a student has passed learning outcomes of all courses, the accomplished credits (percentages) of all passed learning outcomes are being added, while the final grade is defined upon following table:

Range of credits (percentages)	Numerical grade	ECTS grade
90,00 – 100,00	Excellent (5)	A
75,00 – 89,99	Very good (4)	B
60,00 – 74,99	Good (3)	C
50,00 – 59,99	Sufficient (2)	D
0,00 – 49,99	Insufficient (1)	F

#### Obligatory literature

1. Marković, S., Raspor, S., Statistika, priručnik, Veleučilište u Rijeci, Rijeka, 2008.
2. Štambuk, Lj., Devčić, K., Statistika – priručnik i zbirka zadataka, Veleučilište Nikola Tesla u Gospiću, Gospić, 2010.

#### Additional literature

1. Šošić, I., Primijenjena statistika, Školska knjiga, Zagreb, 2006.
2. Horvat, J., Mijoč, J., Osnove statistike, Naklada Ljevak, Zagreb, 2012.

