

### DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	Probability and statistics				
<b>Head of course</b>	PhD Sanja Raspor Janković, Senior Lecturer				
<b>Study programme</b>	Professional undergraduate study Occupational Safety				
<b>Status of a course</b>	Obligatory				
<b>Year of study</b>	2.	<b>Semester</b>	III	<b>ECTS credits</b>	6
<b>Teaching plan (L + E + S+ Pr)</b>	2L+2E				
<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 2: Perform and interpret measurements in the field of occupational safety in a laboratory and in the work environment. Outcome 5: Recommend measures to eliminate or reduce danger, damage and effort. Outcome 10: Participate in teamwork and present professional content in both Croatian and foreign languages in written and spoken form. Outcome 13: Use quantitative and qualitative methods in the analysis of data in the field of occupational safety.					
<b>Expected learning outcomes on a level of a course</b>					
<ol style="list-style-type: none"> <li>Determine the characteristics of observed phenomena using descriptive statistics methods.</li> <li>Distinguish the basic principles of combinatorics and probability on a concrete example.</li> <li>Determine the characteristics of the observed phenomena on the basis of calculated indicators of inferential statistics.</li> <li>Determine correlation and regression between observed variables.</li> <li>Conduct a statistical analysis of collected data and interpret the obtained results</li> </ol>					
<b>Content of a course</b>					
<p>Descriptive statistics: Statistic set. Arranging data. Numerical indicators of a central tendency for dispersion and shaping.</p> <p>Fundamentals of combinations: permutations, combinations and variations.</p> <p>Probability: Definition of probability. Probability of union and intersection. Conditional probability and independence of events. The law of total probability and the Bays theorem. Geometric probability.</p> <p>Random variables: Discreet and continuous random variables. Expectations and variations. Binomial, Poisson, normal and gamma dispersion. <math>\chi^2</math>-test.</p> <p>Inferential statistics: Sample and parameters of the sample and of the root set. Central limit theorem. Intervals of reliance</p> <p>Correlation and regressive analysis: Method of minimal quadrants. Linear correlation and regression.</p>					
<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)					

**Grading, evaluation and monitoring of students' work continuously during lectures and exams**

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.

**Continuous check-up:**

Outcomes	Pre-exam I	Pre-exam 2	Test	Home assignment	Threshold	Max
Outcome 1	30 %		9 %		19,5 %	39 %
Outcome 2		14 %	5 %		9,5 %	19 %
Outcome 3		10 %	3 %		6,5 %	13 %
Outcome 4		16 %	3 %		9,5 %	19 %
Outcome 5				10 %	5 %	10 %
Percentage of ECTS	2	2,5	1	0,5		6 %
Total	30 %	40 %	20 %	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	39 %		39 %
Outcome 2	19 %		19 %
Outcome 3	13 %		13 %
Outcome 4	19 %		19 %
Outcome 5	6 %	4 %	10 %
Percentage of ECTS	5,8	0,2	6
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.



