COURSE NAME	Applied Statistics		
Code	PMIG10	Year of study	3rd year of undergraduate study
Course teacher	Marko Matić	Credits (ECTS)	6

Associate teachers		Type of instruction (number of hours)	L	S	E	
			30		30	

Status of the course	compulsory	Percentage of application of e-learning	30%

COURSE DESCRIPTION	
Course objectives	The course objective is to introduce students to the fundamentals of statistical theory and methods, and to teach them practical skills required for statistical analysis and interpretation of results.
Course enrolment requirements and entry competences required for the course	None
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	The student is able to: group gathered statistical data and display them in tables or by using graphical means, analyse statistical data, calculate all parameters for given statistical data and interpret their values, define all basic notions of statistics and probabilty theory, solve problems of mid range difficulty from the fundamentals of probability theory, explain and apply all basic statistical tests, interpret the results of the basic tests.
Course content broken down in detail by weekly class schedule (syllabus)	Statistical populations and statistical variables: frequencies and proportions, classification of qualitative and numerical data (3 hours). Population parameters: arthimetic mean, standard deviation, standardized statistical variable, geometric and harmonic mean, moments, measures of position (4 hours). Random experiments: outcomes, operations with outcomes, outcome probability,

	probability space (discrete and general) (2 hours).
	Normal, student and chi-squared distribution, conditional probability, independent events, Bayes' formula (3 hours).
	Discrete random variables: the Bernoulli experiment and distribution, the Poisson, hypergeometric, geometric and Pascal distribution (3 hours).
	Continuous random variable: density function, expectation, variance (2 hours).
	Two dimensional random variable: marginal distributions, conditional distributions, independence, covariance and the correlation coefficient (2 hours).
	Samples, estimators for a population parameters (2 hours)
	Confidence intervals: arithmetic mean estimates, proportion estimates, variance estimates, testing two means (variances, proportions) (3 hours)
	Hypothesis testing, significance level, : Z-test and t-test, testing the variance hypothesis, nonparametric tests (6 hours).
Format of instruction	Class lectures and tutorial sessions.
Student responsibilities	Class and tutorial sessions attendance, solving homework problems, self-learning of prescribed material by using the obligatory and optional literature.
Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance 1 ECTS. Final exam 5 ECTS.
Grading and evaluating student work in class and at the final exam	Final written and oral exam. Positive grade at the written exam is required to take the oral exam. The written and oral exam are equally weighted in the final grade.
Required literature (available in the library and via other media)	N. Koceić Bilan, Primijenjena statistika, skripta PMF Split (2011)

Optional literature (at the time of submission of study programme proposal)	I. Šošić, Primijenjena statistika , Školska knjiga Zagreb, 2. izdanje (2006) Ž. Pauše, Uvod u matematičku statistiku, Školska knjiga Zagreb (1993)
Quality assurance methods that ensure the acquisition of exit competences	Anonymous student evaluations at the end of semestar according to the regulations of the University of Split.
Other (as the proposer wishes to add)	