

NAZIV PREDMETA		Methods of Instructions in Applied Mathematics				
Kod	PMM133	Godina studija	The first year of a graduate study			
Nositelj/i predmeta	Damir Vukičević	Bodovna vrijednost (ECTS)	5,0			
Suradnici		Način izvođenja nastave (broj sati u semestru)	P	S	V	T
			30		30	
Status predmeta	Compulsory	Postotak primjene e-učenja	5			
OPIS PREDMETA						
Ciljevi predmeta	<p>The goal of this course is to enable students to successfully plan, organize, realize and evaluate courses in applied mathematics. Particularly, students will learn the basics of descriptive and inferential statistics, and financial mathematics, linear programming – this will cover many topics needed to teach financial mathematics and mathematical economy in secondary schools.</p> <p>Also, their understanding of the modern world filled with financial topics will be vastly improved. Moreover, students will be enabled to perform statistical research on various real-life topics.</p>					
Uvjeti za upis predmeta i ulazne kompetencije potrebne za predmet	<p>Prerequisites: introductory mathematical course completed.</p> <p>Required competencies: knowledge of elementary mathematics.</p>					
Očekivani ishodi učenja na razini predmeta (4-10 ishoda učenja)	<p>Student is able to:</p> <ul style="list-style-type: none"> <li>- explain basic statistical methods</li> <li>- apply basic statistical methods on solving simpler tasks</li> <li>- envision, develop, and lead simpler statistical research</li> <li>- discuss applicability of proposed statistical method in a given context</li> <li>- recommend statistical method for proposed research</li> <li>- calculate loan rates or accumulation of savings</li> <li>- compare and recommend the best methods of taking loans or saving</li> <li>- solve basic problems of linear programming</li> </ul>					
Sadržaj predmeta detaljno razrađen prema satnici nastave	<p>1<sup>st</sup> week: Introduction to descriptive statistics</p> <p>2<sup>nd</sup> week: Population and variables – population parameters;</p> <p>3<sup>rd</sup> week: Standardized variable. Chebyshev's theorem.</p> <p>4<sup>th</sup> week: Discrete probability.</p> <p>5<sup>th</sup> week: Continuous probability.</p> <p>6<sup>th</sup> week: Random variable.</p> <p>7<sup>th</sup> week: Correlation.</p> <p>8<sup>th</sup> and 9<sup>th</sup> week: Elements of the inferential statistics. Interplay of probability and statistics. Sampling methods. Estimators. Sampling distributions.</p> <p>10<sup>th</sup> week: Confidence intervals for mean, proportion, variance, difference of means and proportions.</p> <p>11<sup>th</sup> week: Hypothesis testing, parametric tests, non-parametric tests.</p> <p>12<sup>th</sup> week: Economic functions. Equilibrium. Elasticity.</p> <p>13<sup>th</sup> and 14<sup>th</sup> week: Calculation of interest rates and loan rates.</p> <p>15<sup>th</sup> week: Savings and rents. Basic methods of linear programming</p>					

Vrste izvođenja nastave:	Lectures and exercises.
Obveze studenata	Lecture attendance.
Praćenje rada studenata ( <i>upisati udio u ECTS bodovima za svaku aktivnost tako da ukupni broj ECTS bodova odgovara bodovnoj vrijednosti predmeta</i> ):	Lecture attendance: 1.5 ECTS. Partial exams and final (written and oral) exam: 3.5 ECTS.
Ocjenjivanje i vrjednovanje rada studenata tijekom nastave i na završnom ispitu	Partial exams and final (written and oral) exam.
Obvezna literatura (dostupna u knjižnici i putem ostalih medija)	N. Koceić Bilan, Primijenjena statistika N. Koceić Bilan, Nastavni materijal iz Osnova financijske matematike
Dopunska literatura	B. Šego, Z. Lukač Financijska matematika A. Šegota: Financijska matematika, Udžbenici Sveučilišta u Rijeci 2012 Financijska matematika, ppt, Ekonomski fakultet Sveučilišta u Zagrebu
Načini praćenja kvalitete koji osiguravaju stjecanje utvrđenih ishoda učenja	Statistics of exam results and student's course evaluation (survey according to rules of the University of Split).
Ostalo (prema mišljenju predlagatelja)	