

SYLLABUS for Mathematics

Basic data for the course			
Academic unit:	Faculty of Economics		
Title of the course:	Mathematics		
Level:	Bachelor		
Status of the course:	Obligatory		
Year of studies:	Second year – third semester		
Number of hours per week:	3+2		
ECTS credits:	6		
Time/location:	Faculty of Economic, University of Prishtina “Hasan Prishtina”		
Tutor:	Burim Abdullahu		
Tutor’s contact details:	Email: burim.abdullahu@uni-pr.edu		
Content of the course			
	The aim of the course is to further introduce to students the mathematical methods used in analyzing the economic problems. The core topics of the modules are: univariate calculus, linear algebra, multivariate calculus, static optimization (unconstrained and constrained) and comparative statics. Economic applications from microeconomics and macroeconomics will be discussed for each mathematical topic.		
Course’s objectives:			
	The aim of the course is to provide students with the mathematical tools required for economic analysis at the undergraduate level. Emphasis will be put on developing skills in translating economic problems that students will encounter in their economic models and on solving these models.		
The expected outcomes:			
	Upon completing the course, students will be able to show understanding of relevant mathematical and statistical techniques; work with abstract concepts and in a context of generality; reason logically and work analytically; perform with high level accuracy; select appropriate techniques to solve problems; apply mathematical, statistical and graphical techniques in an appropriate manner; analyse and solve problems accurately.		
The students’ workload (hours per semester, ECTS)			
Activity	Hours	Weeks	Total
Lectures	3	15	45
Seminars (theoretical and practical)	2	15	30
Case studies			
Direct contact with tutor	2	15	30

Field research			
Colloquiums			
Homework			
Individual study (at library or at home)	2	15	30
Final preparation for the exam	2	3	6
Evaluation	2	4	8
Projects, presentation etc.	1	1	1
Total			150
Teaching methods:	Students will have to attend 3 hours of lectures and 2 hours of exercise. The students during the lectures have the opportunity to interact. The consultations are offered to students as per the announced schedule.		
Assessment methods:	Active participation in lectures and exercises especially (10%); Test 1 (35% of the passing criteris); Test 2 (55%). In case a students fails to pass the exam through tests, then he/she should undergo a final exam (a student should pass at least 50% of the final exam).		
Literature			
Basic literature:	1.Essential Mathematics for Economic Analysis, Sydsaeter, K., Hammond, P. J. and Strom, A. (2012) 4th edition, Pearson.		
Additional literature:	2.Schaum's Outline of Introduction to Mathematical Economics, Dowling, E.T. (2001), 3rd edition, McGraw Hill.		

The detailed plan of work:	
Week	Topic
Wee 1	Introductory Topics: Equations
Wee 2	Functions of One Variable; Properties of Functions
Wee 3	Differentiation
Wee 4	Single-Variable Optimization
Wee 5	Interest Rates and Present Values
Wee 6	Functions of Many Variables
Wee 7	Functions of Many Variables
Wee 8	Tools for Comparative Statics
Wee 9	Comparative statistics (applications: <i>profit, production, revenue maximization; cost minimization</i>)
Wee 10	Linear algebra; Matrices; System of linear equations; (<i>applications: Macroeconomic output-consumption-investment models; multiple markets; input-output models</i>)
Wee 11	Multivariable Optimization
Wee 12	Multivariable Optimization (<i>applications: consumer choice,</i>

	<i>cost minimization, profit maximization)</i>
Wee 13	Constrained Optimization
Wee 14	Linear Programming
Wee 15	Linear Programming

Academic policies and code of conduct:

Students are expected to participate in lectures and exercises. Also, consultation are available as well and students are instructed to use computers in their work though case studies. They are encouraged to use information technology in problems solving. They should respect the code of conduct during lectures and exams and in communication with the academic staff.