Меѓународен Универзитет Визион - International Vision University
Universiteti Ndërkombëtar Vizion - Uluslararası Vizyon Üniversitesi

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SYLLABUS

COURSE NAME	COURSE CODE	SEMESTER	COURSE LOAD	ECTS
MATHEMATICS 1	**2003**	**1**	**240**	**8**

Prerequisite(s)	None

Course Language	Turkish
Course Type	Required
Course Level	First Cycle
Course Lecturer	
Course Assistants	
Classroom	
Extra-Curricular Office Hours and Location	Meeting: Consultancy:

Course Goals	This course aims to teach the sets, real and complex numbers, arrays, functions, limits and continuity, indeterminate forms, account difference, derivatives, partial derivatives, differentials, fully differentials, Rolle and Mean Value Theorem, parametric and polar Equations and extremes.
Program Outcomes	In the end of this course students will be able to: • To compute the limit of various functions, to use the concepts of the continuity, and to use the rules of differentiation to differentiate the functions. • To sketch the graph of a function by using asymptotes, the critical points, the derivative test of increasing/decreasing functions and concavity properties. • To set up max/min problems and use differentiation to solve them. • To evaluate integrals by using the Fundamental Theorem of Calculus and apply integration to compute areas and volumes by slicing, volumes of revolution, arc length and transcendental functions, by using integrals techniques. • To use L'Hospital's rule.
Course Contents	The contents of this course are: Real Numbers and the Real Line, Lines, Circles and Parabolas, Functions and Graphs, classification of functions, Mathematical Models, Junction Function, Shift Rules, trigonometric functions, Limits and Continuity: Rate of Change and Limits, Finding Limits and rules, Description Limit, Limit and One-Sided Limits at Infinity, Infinite Limits and Vertical asymptote, Continuity, Tangents and Derivatives, Derivative: As the function, derivative rules, as the Exchange Rate Derivatives, derivatives of trigonometric functions, and parametric equations Chain Rule, Implicit Differentiation, Related Rates, Linearization and Differentials, Applications of Derivatives: Functions of Extreme Values, Mean Value Theorem, Monotonic Functions and First Order Derivative Test, Concavity and Curve Sketching, Applied Optimization Problems, Indeterminate Forms and L'Hopital's Rule, Newton Method reverse derivatives cost. Integral Finite Total Calculation, Sigma Notation and Finite Limits of sums, The definite integral.

WEEKLY SUBJECTS AND RELATED PREPARATION STUDIES

Week	Subjects	Related Preparation
1	Sets, Numbers, Sequences	Related Chapters of Course Sources
2	Limits and Continuity	Related Chapters of Course Sources
3	Derivatives	Related Chapters of Course Sources
4	Implicit Functions and Derivative of Implicit Functions	Related Chapters of Course Sources
5	Applications of Derivatives	Related Chapters of Course Sources
6	Applications of Derivatives	Related Chapters of Course Sources
7	Mid-term Exam	Related Chapters of Course Sources
8	Inverse Trigonometric Functions	Related Chapters of Course Sources
9	Exponential and Logarithmic Function	Related Chapters of Course Sources
10	Hyperbolic Functions	Related Chapters of Course Sources
11	Parametric Equations	Related Chapters of Course Sources
12	Polar Coordinates	Related Chapters of Course Sources
13	Curvature, Curvature radius	Related Chapters of Course Sources
14	Rolle, Lagrange and Cauchy's Theorem	Related Chapters of Course Sources
15	Final Exam	Related Chapters of Course Sources

ECTS / WORKLOAD TABLE

Presentation / Seminar			
Hours for off-the-classroom study (Pre-study, practice)	14	3	42
Midterm Exam	1	12	12
Final examination	1	14	14
Total Work Load			
ECTS	**8**		

GENERAL PRINCIPLE RELATED WITH COURSE

Dear students,

In order to be included, learn and achieve full success that you deserve in the courses you need to come well prepared by reading the basic and secondary textbooks. We are expecting from you carefully to obey to the course hours, not to interrupt the lessons unless is very indispensable, to be an active participant on the courses, easily to communicate with the other professor and classmates, and to be interactive by participating to the class discussions. In case of unethical behavior both in courses or on exams, will be acting in framework of the relevant regulations. The attendance of the students will be checked in the beginning, in the middle or at the end of the lessons. Throughout the semester the students who attend to all lectures will be given 15 activity-attendance points in addition to their exam grades.

SOURCES

COMPULSORY LITERATURE		
No	Name of the book	Author's Name, Publishing House, Publication Year
1	Matematik Analiz 1	Mustafa Balcı, Sürat Üniversite Yayınları, 8. Baskı
2		
3		

ADDITIONAL LITERATURE		
No	Name of the book	Author's Name, Publishing House, Publication Year
1	Çözümlü Matematik Analiz Problemleri 1	Mustafa Balcı, Sürat Üniversite Yayınları,8. Baskı
2		
3		

EVALUATION SYSTEM

Underlying the Assessment Studies	NUMBER	PERCENTAGE OF GRADE
Attendance/Participation	15	%10
Project / Event	1	%20
Mid-Term Exam	1	%35
Final Exam	1	%35
TOTAL	**17**	**%100**

ETHICAL CODE OF THE UNIVERSITY

In case of the students are cheating or attempt to cheat on exams, and in the case of not to reference the sources used in seminar studies, assignments, projects and presentations, in accordance to the legislations of the Ministry of Education and Science of Republic of Macedonia and International Vision University, will be applied the relevant disciplinary rules. International Vision University students are expected never to attempt to this kind of behavior.