Course Code	Course Title	Semester	Course Type (C/E)	T+A+L (Time/Week)	Credit	ECTS	Course Language
KİM114	Mathematics I	Fall	C	2+2+0		5	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	Fundamental conceptions of mathematical analysis, set and number conceptions,functions and special functions,sequence of real numbers,convergence,upper nad lower limits,properties of continuous functions,derivative, higher order derivative,geometric and physical meaning of the derivative, theorems related with derivative,indefinite limits, drawing curves.
The Aim of the Course	To give fundamental conceptions of mathematical analysis and limit,continuity, derivative and applications of derivative in single-valued functions.
Course Level	Bachelor degree
Course Language	Turkish
Teaching method	(X) Formal ( ) Online ( ) Mixed/Hybrid
Teaching Staff of the Course	Related Lecturers
Prerequisite Course(s) of the Course	
Learning Outcomes from the Course	1. He/she defines the set and number conceptions 2. He/she recognizes functions and some special functions. 3. He/she expresses to take the limit at one point of functions. 4. He/she interprets the sequence and properties of sequences. 5. He/she employs the properties of continuous functions. 6. He/she explains the concept of derivative and applications of derivative. 7. He/she compares the geometric and physical meaning of the derivative. 8. He/she interprets the theorems related with derivative. 9. He/she calculates indefinite limits 10. He/she explains drawing curves.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1	Description of function and some special functions: trigonometric functions, logarithmic functions, exponential functions	
2	Limit of functions, the concept of infinity and infinite limits, limits	
3	Some special functions, trigonometric functions, logarithmic and exponential functions, limits	
4	Continuity of functions, uniform continuity of continuous functions	
5	Introduction to the concept of derivative, derivative rules, derivative of composite function (chain rule), derivatives of parametric and implicit functions.	
6	High-order derivatives, the geometric and physical meaning of the derivative, the derivative theorems, differential.	
7	Maximum and minimum problems, the relative variables. Linear approximation	

8	L'Hospital's rule, limits vague shapes, Cartesian and polar coordinates, graphs of curves.	
9	Indefinite integral, integration rules, variable replacement method,	
10	Partial integration, rational functions, trigonometric functions, integrals of irrational functions.	
11	The definite integral and fundamental theorems.	
12	Cartesian and polar coordinate systems of the accounts.	
13	Account the length of the curve arc. Calculation of Volume and areas of surfaces of revolution	
14	Account the length of the curve arc. Calculation of Volume and areas of surfaces of revolution	
15	Final Exam	

Course Learning Resources

1. BALCI, Mustafa, Mathematical Analysis, Volume I, Ertem Press, Ankara, 1996.
2. GÖRGÜLÜ, Ali, General Mathematics, Volume I, Etam AS. Printing Facilities, Eskisehir, 2000
3. GÖRGÜLÜ, Ali, General Mathematics, Volume II, Etam AS. Printing Facilities, Eskisehir, 2000
4. FLEMING, W.H., Functions of several variables, Addison-Wesley Publishing Company, INC., ATLANTA, 1965.
5. ADAMS, R. A., Calculus: A complete course, Addison-Wesley Publishers Limited,
6. WEBB, J.R.L., Functions of several variables, Ellis Harwood Limited, LONDON,

ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework	1	%30
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	2	%35
Ratio Of Semester Studies To Semester Success (%)		%40
Ratio of Final to Success (%)	1	%60
Total		%100

COURSE WORKLOAD TABLE

Activity	Total Weeks	Duration (Weekly Hours)	Total Workload
Theory	14	4	56
Practice			
Forum/ Discussion Application			
Reading	14	2	28
Internet Scanning, Library Study	14	2	28
Material Design, Application			
Report Preparation			
Presentation Preparation			
Presentation			
Final Exam	1	1	1
Preparation for the Final Exam	2	6	12
Other(s) (Specify: … …. ………..)			
Total Workload			
Total Workload / 25 (s)			125/25
ECTS Credits of the Course			$125/25 \cong 5$
Note: The workload of the course will be determined by the instructor on a per-course basis.			

No	Program Learning Outputs	1	2	3	4	5
	PROGRAM LEARNING OUTPUTS CONTRIBUTION LEVELS					
1	Gains extensive knowledge about the basic chemical properties of matter and uses this knowledge in daily life, industrial scale, and practical chemistry and shares them with the society.	X				
2	Performs experiments, collects data, interprets, evaluates results, defines problems parallel to current technological developments, produces solutions against problems encountered in the laboratory.	X				
3	Calculates and processes chemical information and data.					X
4	Applies her/his knowledge and understanding of chemistry to the solution of unconventional qualitative and quantitative problems.	X				
5	Defines and comprehends chemical concepts and theories in Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Analytical Chemistry, Biochemistry.	X				
6	Can conduct research in the light of scientific data on any subject in the field of chemistry.	X				
7	Writes, presents, discusses scientific material, and presents it orally to a knowledgeable audience.	X				
8	Brings a chemical approach to the solution of environmental problems, makes environmental analyzes and reports.	X				
9	Knows a foreign language at a level to read and understand the basic terms and processes of the chemist profession.	X				
10	Can use computer software and information and communication technologies at the level required by the field.	X				
11	Adapts and transfers the knowledge gained in the field to secondary education.	X				
12	Apart from the field of chemistry, she/he gains knowledge in different branches of science that she feels close to.	X				
13	Carries out a study independently, makes group work and gains the awareness of taking responsibility.	X				
14	They can develop a positive attitude towards lifelong learning and constantly renew their professional knowledge and skills.	X				
15	Have sufficient awareness of the universality of social rights, social justice, quality culture and protection of cultural values, environmental protection, occupational health and safety.	X				