



**YOZGAT BOZOK UNIVERSITY FACULTY OF ARTS AND SCIENCES**  
**CHEMISTRY DEPARTMENT COURSE PLAN**

Course Code	Course Title	Semester	Course Type (C/E)	T+A+L (Time/Week)	Credit	ECTS	Course Language
KİM124	Mathematics II	Spring	C	2+2+0		5	Turkish

**COURSE INFORMATION**

<b>Course Catalog Description (Content)</b>	Indefinite integral, definite integral and its applications. Improper (generalized) integrals.
<b>The Aim of the Course</b>	To teach the concepts and applications of the mathematics course in the field of engineering at the undergraduate level
<b>Course Level</b>	Bachelor degree
<b>Course Language</b>	Turkish
<b>Teaching method</b>	(X) Formal ( ) Online ( ) Mixed/Hybrid
<b>Teaching Staff of the Course</b>	Related Lecturers
<b>Prerequisite Course(s) of the Course</b>	
<b>Learning Outcomes from the Course</b>	<ol style="list-style-type: none"><li>1. Calculate indefinite integrals with variable substitution and partial integration method</li><li>2. Calculate integrals of rational, irrational and trigonometric functions.</li><li>3. Calculate the indefinite integral by making various variable substitutions.</li><li>4. Calculate the integral using the definition of definite integral.</li><li>5. Solve specific Integral of custom defined functions.</li><li>6. Calculate the area and volumes of solids using definite integrals.</li></ol>

**COURSE CONTENT**

Week	Theory	Practice/Laboratory
1	Indefinite integrals, integration rules	
2	Variable substitution method, Special Variable Substitutions	
3	Partial integration method, Simple fractionation method	
4	Trigonometric Integrals	
5	Irrational Integrals	
6	Definite integral definition, Fundamental Theorem of Calculus	
7	Definite Integral, Mean Value Theorem, Changing the Boundaries according to the new variable	
8	Calculation of area using definite integral	
9	Calculation of volume using definite integral	
10	Calculation of volume using definite integral	
11	Length of curve arc	
12	Areas of Surfaces of revolution	
13	Improper Integrals	
14	Improper Integrals	
15	Final Exam	

**Course Learning Resources**

1. BALCI, Mustafa, Mathematical Analysis, Volume I, Ertem Press, Ankara, 1996.

**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.			

### PROGRAM LEARNING OUTPUTS CONTRIBUTION LEVELS

No	Program Learning Outputs	1	2	3	4	5
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				

<b>10</b>	Can use computer software and information and communication technologies at the level required by the field.	<b>X</b>				
<b>11</b>	Adapts and transfers the knowledge gained in the field to secondary education.	<b>X</b>				
<b>12</b>	Apart from the field of chemistry, she/he gains knowledge in different branches of science that she feels close to.	<b>X</b>				
<b>13</b>	Carries out a study independently, makes group work and gains the awareness of taking responsibility.	<b>X</b>				
<b>14</b>	They can develop a positive attitude towards lifelong learning and constantly renew their professional knowledge and skills.	<b>X</b>				
<b>15</b>	Have sufficient awareness of the universality of social rights, social justice, quality culture and protection of cultural values, environmental protection, occupational health and safety.	<b>X</b>				

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