



ESOGÜ Mathematics and Computer Sciences Department
COURSE INFORMATION FORM

SEMESTER | Fall

COURSE CODE	821617016	COURSE NAME	Mathematics, Nature and Art I
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Labratory	Credit	ECTS	TYPE	LANGUAGE
7	2	2	0	3	5	COMPULSORY (x) ELECTIVE ()	Turkish

COURSE CATAGORY

Mathematics	Computer	Social Science
x		

ASSESSMENT CRITERIA

	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term	1	40
	2nd Mid-Term		
	Quiz		
	Homework		
	Project		
	Report		
	Others (.....)		
FINAL EXAM		1	60
PREREQUIEITE(S)	None.		
COURSE DESCRIPTION	Fractal geometry Curves and Mapple Geometry and art notes		
COURSE OBJECTIVES	Student will learn curves and applications. Also they will think new mathematics models in nature and art . And they will bring this models as projects		
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	In this course , students will learn connections in art and nature of matematics		
COURSE OUTCOMES	The skill to use the modern techniques and computational tools needed for mathematical applications,		
TEXTBOOK	Differential geometry, Barret O'Neill Prof.Anne burns, 'geometry and art' course notes		
OTHER REFERENCES	Differential geometry, Barret O'Neill Journal of mathematics and art Mathematics, Nature and art, Maria Mannone		
TOOLS AND EQUIPMENTS REQUIRED	None.		

COURSE SYLLABUS	
WEEK	TOPICS
1	Euclidean Space
2	Tangent Vectors
3	Directional Derivatives
4	Curves
5	Differential Forms
6	The Frenet Formulas
7	Connection Forms, The Structural Equations
8	Mid-Term
9	Application with Mapple of curves
10	Applicaton with Mapple of curves
11	Introduction Fractal geoemtry
12	Paper study on Mathematics, nature and art
13	Paper study on Mathematics, nature and art
14	Recursion mathematic, nature and art Project work
15,16	Final

NO	PROGRAM OUTCOMES	3	2	1
1	The ability to apply knowledges of Mathematics and Computer Sciences,	x		
2	To have sufficient theoretical and practical knowledge of Mathematics at international level,	x		
3	The ability of describing, modelling and solving of mathematical problems at Mathematics and related subjects,	x		
4	The skill to solve and design a problem process in accordance with a defined target,	x		
5	Skills to analyze data, interpret and apply to other datum and using these data on computer,	x		
6	The skill to use the modern techniques and computational tools needed for mathematical applications,	x		
7	The skill to make team work within the discipline and interdisciplinary,	x		
8	The ability to improve oneself by following the developments on other modern, scientific and technological subjects as well as Mathematics and Computer Sciences,	x		
9	The skill to communicate orally and in written way, in a clear and concise manner by having individual work skills and ability to independently decide and analytical thinking,	x		
10	The skill to have professional and ethical responsibility,	x		
11	The skill to have consciousness for quality issues and scientific research,	x		
12	The skill to be sensitive to environmental issues related with problems and development of living area and consistent in the social relations,	x		
13	Ability to solve problems in the working life faced to find an appropriate algoritms via mathematical modeling and to write computer programs,	x		
14	The skill to developed design of software systems at different complex levels,	x		
15	The credence of necessity of life-long learning and ability to apply the formation long-life learning.	x		
1:None. 2:Partially contribution. 3: Completely contribution.				

Instructor(s): Prof. Dr. Nevin Gürbüz

Signature:

Date: