



ESOGÜ Mathematics and Computer Sciences Department
COURSE INFORMATION FORM

SEMESTER Spring

COURSE CODE	821618017	COURSE NAME	Mathematics, Nature and Art II
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Labratory	Credit	ECTS	TYPE	LANGUAG E
8	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	
2nd Mid-Term			
Quiz			
Homework			40
Project			
Report			
Others (.....)			
FINAL EXAM		1	60

PREREQUIEITE(S)	None.
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COURSE DESCRIPTION	Surfaces and Mapple applications Paper study relation journal of mathematics and art fractals
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COURSE OBJECTIVES	Students will do application on surfaces and they will think new mathematics models in nature and art . Also, they bring this models as projects
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ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	In this course , students will learn connections in art and nature of matematics
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COURSE OUTCOMES	The skill to use the modern techniques and computational tools needed for mathematical applications,
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TEXTBOOK	Differential geometry, Barret O ‘Neill Mathematics, nature and art, Maria Mannone Anne Burns lecture notes
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OTHER REFERENCES	Journal of mathematics and art
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TOOLS AND EQUIPMENTS REQUIRED	None.
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COURSE SYLLABUS

WEEK	TOPICS
1	Surfaces
2	Differential forms on surfaces
3	The shape operator
4	Normal curvature
5	Gaussian curvature
6	Asymptotic and geodesic curvatures
7	Gauss-Bonnet theorem
8	Mid Term
9	Fractal geometry subjects
10	Fractal geometry subjects
11	Snowflakes animations
12	Examples surface with mapple
13	Examples surface with mapple
14	applications
15,16	Project ,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: