MAT3006		Differential Geometry 2				
Semester	**Course Unit Code**	**Course Unit Title**		**L+P**	**Credit**	**Number of ECTS Credits**
6	MAT3006	Differential Geometry 2		4	4	7

Mode of Delivery:
Face to Face
Language of Instruction:
Türkish
Level of Course Unit:
Bachelor's Degree
Work Placement(s):
No
Department / Program:
MATHEMATICS
Type of Course Unit:
Required
Objectives of the Course:
This course?s aim is to giving the fundamental concepts of the differential geometry and getting students to comprehend curve and surface theory.
Teaching Methods and Techniques:
Differentiable functions on a surface, Tangent space of a surface, Lie algebra of vector fields on a surface, Covariant vectors, Shape operator of a surface, Examples of shape operators, Fundamental forms, Normal curvature of a surface and its principal curvatures, Quadratic approach of a surface, Mean curvature and Gaussian curvature of a surface, Special curves on a surface, Curvature line, Asymptotic curve, geodesic curve, Gauss equality, Revolution surfaces, Regle surfaces, Parallel surfaces.
Prerequisites and co-requisities:

Course Coordinator:

Name of Lecturers:
Prof.Dr. Halit Gündoğan
Assistants:

Recommended or Required Reading	
Resources	Sabuncuoğlu, Arif, ?Diferensiyel Geometri?, Nobel Yayınları, Ankara, 2001.
	Hacısalihoğlu, H.Hilmi ve Sabuncuoğlu, Arif, ?Diferensiyel Geometri?, Milli Eğitim Basımevi, İstanbul, 1983.
	Sabuncuoğlu, Arif, ?Diferensiyel Geometri?, Nobel Yayınları, Ankara, 2001.cısalihoğlu, H. H., Diferensiyel Geometri, Cilt I, Ankara Üniversitesi, Fen Fakültesi Matematik Böl
	Hacısalihoğlu, H. H., Diferensiyel Geometri, Cilt II, Ankara Üniversitesi, Fen Fakültesi Matematik Bölümü, 1998
	Lecture, Drilland Practice, Problem Solving, Discussion, Question and answer.
	Hacısalihoğlu, H. H., Çözümlü Diferensiyel Geometri Problemleri, Cilt I, Ankara Üniversitesi, Fen Fakültesi Matematik Bölümü, 1996.Hacısalihoğlu, H. H., Çözümlü Diferensi

Course Category				
Mathmatics and Basic Sciences	:	**Education**	:	
Engineering	:	**Science**	:	
Engineering Design	:	**Health**	:	
Social Sciences	:	**Field**	:	

Weekly Detailed Course Contents			
Week	**Topics**	**Study Materials**	**Materials**
1	Differentiable functions on a surface		
2	Tangent space of a surface		
3	Lie algebra of vector fields on a surface		
4	Covariant vectors		
5	Shape operator of a surface		
6	Examples of shape operators, fundamental forms		
7	Normal curvature of a surface and its principal curvatures		
8	Mid term exam		
9	Quadratic approach of a surface		
10	Gauss curvature and men curvature of surface		
11	Special curves on surfaces, curvature line		
12	Asymptotic curve, geodesic curve		
13	Gauss equality, revolution surfaces		
14	Regle surfaces		
15	Parallel Surfaces		

Course Learning Outcomes	
No	**Learning Outcomes**
C01	Yüzeyleri örneklendirir,

Program Learning Outcomes	
No	**Learning Outcome**
P09	Independently carries out research in the field of Mathematical Sciences.
P08	Uses the ability of abstract thinking.
P07	Solves numerical, algebraic, geometric and spatial expressions, equations, functions and problems.
P12	Develops new ideas in the field of Mathematical Sciences.
P11	Updates their current knowledge in the field of Mathematical Sciences.
P10	Critically evaluates the knowledge and skills acquired in the field.
P03	Advanced undergraduate subjects will have the qualifications to carry out the work independently in partnership.
P02	The fundamental notions, theories and data, evaluating scientific methods, identify and analyze problems and issues encountered in discussions, makes recommendations based on research eviden
P01	Based on efficiencies gained by using materials related to mathematics in secondary education, is equipped with advanced knowledge.
P06	Interprets abstract mathematical concepts, including rings and abstract algebra, and critical reasoning.
P05	Interprets mathematical and statistical models such as formulas, functions, graphs, tables, and schematics.
P04	Can express mathematical information numerically, symbolically, graphically, verbally, and visually.

Assessment Methods and Criteria

In-Term Studies	Quantity	Percentage
Mid-terms	1	%40
Quizzes	0	%0
Assignment	0	%0
Attendance	0	%0
Practice	0	%0
Project	0	%0
Final examination	1	%60
Total		**%100**

ECTS Allocated Based on Student Workload

Activities	Quantity	Duration	Total Work Load
Course Duration	16	4	64
Hours for off-the-c.r.stud	14	6	84
Assignments	3	6	18
Presentation	0	0	0
Mid-terms	1	20	20
Practice	0	0	0
Laboratory	0	0	0
Project	0	0	0
Final examination	1	30	30
Total Work Load			**216**
ECTS Credit of the Course			**7**

Contribution of Learning Outcomes to Programme Outcomes

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	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12
All	5	4	4	5	5	3	4	5	4	4	5	4
C01	5	4	4	5	5	3	4	5	4	4	5	4