ESOGÜ Mathematics and Computer Sciences Department
COURSE INFORMATION FORM

SEMESTER	Spring

COURSE CODE	821616005	COURSE NAME	Applied Mathematics

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	**Practice**	**Labratory**	**Credit**	**ECTS**	**TYPE**	**LANGUAGE**
6	3	0	0	3	5	COMPULSORY ( ) ELECTIVE (x)	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	Laplace Transformations and their applications, Special functions, Special Polynomials and their applications, Inverse Laplace Transformations and their applications,
COURSE OBJECTIVES	To give same basic concepts of special functions which we can face with, in applied mathematics.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	Gain the ability of problem solution.
COURSE OUTCOMES	Our aims are to determine some special functions , directly or indirectly which we can face with, in various fields , to give fundamental solution method and to inform about its mathematical theory.
TEXTBOOK	Uygulamalı Matematik (İ.Baki Yaşar)
OTHER REFERENCES	Special Functions for Engineers and Applied Mathematician (L.C.Andrews)
TOOLS AND EQUIPMENTS REQUIRED	None

WEEK	TOPICS
COURSE SYLLABUS	
1	Laplace Transformations of some functions.
2	Existence of Laplace Transformations and their properties
3	Methods to find Laplace Transformations
4	Inverse Laplace Transformations
5	Properties of Inverse Laplace Transformations
6	Applications of Inverse Laplace Transformations to ODEs
7	Applications of Inverse Laplace Transformations to PDEs
8	Midterm
9	Special functions
10	Gamma function
11	Beta function
12	Legendre polynomials and generating function
13	Examples of Legendre polynomials
14	Laguerre polynomials
15	Hermite polynomials
16	Final

NO	PROGRAM OUTCOMES	3	2	1
1	The ability to apply knowledges of Mathematics - Computer,	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 - Computer,		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. Filiz Taşcan

Signature:

Date: