

Course Title-Course Code: Profession Mathematics EBE-202					Name of the Programme: Computer Systems Teaching				
Semester	Teaching Methods							Credits	
	Lecture	Recite	Lab.			Other	Total	Credit	ECTS Credit
3	42					58	100	3	4
Language	Turkish								
Compulsory / Elective	Compulsory								
Prerequisites	-								
Course Contents	Laplace transformation, inverse Laplace transformation. Some properties of Laplace transformation. To obtain differential equation of linear electrical circuits and solution by help of Laplace transformation. Periodic functions, trigonometric series, Fourier Series, Euler equation. Odd and even function. To obtain Fourier coefficients without integral. Fourier integrals. Installing of Matlab, to introduce menus and demos of Matlab. Assignment of variables to workspace, definition of numbers, special variables, constants and characters. Definition of string, saving and loading of variables to workspace. Creating matrix, some basic matrix operations (addition, subtraction, multiplication with constant, to inverse of matrix etc.) on Matlab. Creating some basic graphics, copying, saving, printout. To make some basic calculations and creating m- file to demonstrate basic graphics. To definition of algebraic equation and its solution on Matlab. To solution differential equation on frequency domain and time domain. Some symbolic solution applications related with subject.								
Course Objectives	Solving differential equations by using Laplace transformation. To analysis electrical circuits with Laplace transformation. To obtain Fourier series expansion of functions. Basic Matlab using and solving differential equations with Matlab.								
Learning Outcomes and Competences	<ul style="list-style-type: none"> • Solving differential equations by using Laplace transformation • Analyzing of electrical circuits by using Laplace transformation. • Obtaining Fourier series expansion of functions. • Basic Matlab using and solving differential equations by using Matlab. 								
Textbook and /or References	<ul style="list-style-type: none"> • Akın, Ömer, (2005), “ Bilgisayar Destekli ve Matematiksel Modellemeli Diferensiyel Denklemler ve Sınır Değer Problemleri”, Palme Yayıncılık, Ankara. (Translation: Adwards&Penney). • Doğan, Nurettin, (2005), “Differential Equations With Applications Course Notes”. 								
Assessment Criteria								<i>If any, mark as (X)</i>	Percent (%)
	Midterm Exams							x	50
	Quizzes								
	Homeworks								
	Projects								
	Term Paper								
	Laboratory Work								
	Other								
	Final Exam							x	50

Instructors	Assist. Prof. Dr. Nurettin DOĞAN
Week	Subject
1	Laplace Transformation
2	Basic properties of Laplace transformation.
3	Inverse Laplace transformation and basic properties.
4	Solving differential equations with Laplace Transformation.
5	Obtaining differential equations of electrical circuits and analyzing by using Laplace Transformations.
6	Periodic functions, Trigonometric series, Fourier Series.
7	Odd and even functions, obtaining Fourier coefficients without integral.
8	Installing and running of Matlab. to introduce menus and demos of Matlab.
9	Assignment of variables to workspace, definition of numbers, special variables, constants and characters. Definition of string, saving and loading of variables to workspace.
10	Creating matrix, some basic matrix operations (addition, subtraction, multiplication with constant, to inverse of matrix etc.) on Matlab. Creating some basic graphics, copying, saving, printout.
11	To make some basic calculations and creating m- file to demonstrate basic graphics.
12	To definition of algebraic equation and its solution on Matlab.
13	To solution differential equation on frequency domation and time domain.
14	Some symbolic solution applications.