AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Engineering Mathematics II								
Course Code	ZTY530		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	7	Workload	175 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	To ensure that the students be able to use vectors defining some quantities such as force, acceleration and direction of gravity. To Provide that the students can create differential equations used to solve engineering problems. Introduce matrices, series and Laplace transforms. To provide that the students can calculate basic mathematical problems by computer.								
Course Content	Vectors, linear transformation matrices, eigenvectors and eigenvalues of matrices, matrix operations, inverse or matrices, linear equations and MATLAB functions and applications.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study, Problem Solving								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Engineering Mathematics K. A. Stroud, Dexter J. Booth

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction of differentiation in engineering calculations
2	Theoretical	Basic MATLAB
3	Theoretical	Ordinary differential equations
4	Theoretical	First degree differential equations
5	Theoretical	Linear differential equations
6	Theoretical	Differential equation systems
7	Theoretical	Solution techniques of differential equations systems
8	Intermediate Exam	Midterm Exam
9	Theoretical	MATLAB applications in differential equations
10	Theoretical	MATLAB applications in differential equations
11	Theoretical	Maxsimization and minimization problems
12	Theoretical	Introduction of applied linear algebra
13	Theoretical	Vector calculations
14	Theoretical	Laplace transformation and Fourier series
15	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	8	3	154
Midterm Examination	1	7	2	9
Final Examination	1	10	2	12
			Total Workload (Hours)	175
			[Total Workload (Hours) / 25*] = **ECTS**	7
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To create mathhematic models of engineering problems.
2	To get root of equaitons with repetitive solution methods
3	To ability curve fitting with interpolation methods

4	To ability calculate numerical derivative and integral calculus
5	To solve systems of linear equation
6	To solve ordinary and partial differential equations.

Programme Outcomes *(Agricultural Structures and Irrigation Master)*	
1	Ability to use, evaluate and improve the knowledge gained from field of study at an expert level
2	Ability to reach necessary the knowledge
3	To able to conduct scientific studies (research) related to the field
4	Ability to consider academical and ethical values the studies
5	Ability to improve editing method and evaluate the results of researches
6	The studies, the ability to reach result and application, develop new approaches
7	A topic in the field of written, verbally and visually as the ability to express
8	Effective use of Turkish language and ability to communicate in a foreign language both written and verbal

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5	L6
P1	5	5	5	4	5	5
P2	5	5	5	5	5	5
P3	4	4	5	5	4	5
P5	5	4	5	5	4	5
P6	3	4	4	5	4	5
P7	5	4	4	4	4	4