AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Engineering Mathematics I						
Course Code		ZTY501		Couse Level		Second Cycle (Master's Degree)		
ECTS Credit	8	Workload	200 *(Hours)*	Theory	2	Practice	2	Laboratory	0

Objectives of the Course	To help the students express engineering events by mathematical notions in a manner that is fully of meaning in their experimental and theoretical works and their theses.
Course Content	Derivatives, Partial Differential Equations, maxima and minima problems, Lagrange multipliers, integration, Fourier series and transformation, Laplace transformation, 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	Introduction of integration in engineering calculations
3	Theoretical	Basic MATLAB
4	Theoretical	Ordinary differential equations
5	Theoretical	First degree differential equations
6	Theoretical	Linear differential equations
7	Theoretical	Differential equation systems
8	Theoretical	Solution techniques of differential equations systems
9	Intermediate Exam	Midterm Exam
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	5	2	98
Lecture - Practice	14	4	2	84
Midterm Examination	1	6	2	8
Final Examination	1	8	2	10
			Total Workload (Hours)	200
		[Total Workload (Hours) / 25*] = **ECTS**		8

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To enable to express engineering events by mathematical notions
2	To enable to analyse engineering problems

3	To gain the ability of evaluating the experimental Works
4	To gain the ability of mathematical modelling
5	To gain the ability for doing mathematics on computer

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
P1	5	5	5	5	5
P2	5	4	4	5	5
P3	4	5	4	4	4
P4	3	3	3	3	3
P5	4	5	5	5	5
P6	4	5	3	4	4
P7	4	3	5	5	5
P8	1	1	1	1	1