



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Energy-Ekserji Method For the Analysis of Thermal Systems							
Course Code		ZTM621		Couese Level		Third Cycle (Doctorate Degree)			
ECTS Credit	8	Workload	200 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		Basic Concepts, basic exergy concepts, physical, chemical exergy, basic elements in system analysis, exergy analysis of open and closed systems, energy -exergy analysis for agricultural applications.							
Course Content		Basic Concepts, basic exergy concepts, physical, chemical exergy, basic elements in system analysis, exergy analysis of open and closed systems, energy -exergy analysis for agricultural applications.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), 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	Boles, M. Cengel, Y. (2011). Thermodynamics. Izmir
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Week	Weekly Detailed Course Contents	
1	Theoretical	Entrance
2	Theoretical	Basic concepts
3	Theoretical	Basic exergy concepts
4	Theoretical	Physical exergy
5	Theoretical	Chemical exergy
6	Theoretical	Exergy in closed systems
7	Intermediate Exam	midterm exam
8	Theoretical	Basic elements in system analysis
9	Theoretical	Exergy analysis of open systems
10	Theoretical	Exergy analysis of open systems
11	Theoretical	Exergy analysis of closed systems
12	Theoretical	Energy -exergy for agricultural applications
13	Theoretical	Energy -exergy for agricultural applications
14	Final Exam	final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	5	3	112
Assignment	6	6	6	72
Midterm Examination	1	5	3	8
Final Examination	1	5	3	8
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Learning the concept of energy-exergy
2	To be able to make energy-exergy analysis in agricultural applications
3	Physical exergy
4	Chemical exergy



5	Basic elements in system analysis
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Programme Outcomes (Agricultural Machinery Doctorate)

1	Identification, formulation and solving the problems in the field of Agricultural Machinery
2	The ability to use modern engineering tools and techniques
3	The ability to use the information, which is obtained by following the scientific and technological developments, in the academic life and practice.
4	The ability to evaluate multi-faced relationship between them by understanding interaction among agricultural technology, soil, plants and animals
5	Professionalism and ethical responsibility
6	The ability to work in disciplinary and multi-disciplinary teams
7	The ability to communicate effectively
8	The ability to do research for accessing information and to use data base and other resources
9	The ability to do analyze and interpret the experimental results and the design of experiment
10	The ability to identify and interpret knowledge of current professional issues and events
11	The ability to get aware the universal and social effects of engineering solutions and applications
12	Accordance with the requirements of science and technology, ability to use scientific knowledge creative

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

	L1	L2	L4
P2	4		5
P4	5	5	5
P6		4	
P7	5	4	

