

MM Advanced Energy Conversion Technologies				DEPARTMENT of MECHANICAL ENGINEERING					
Semester	Methods of Education							Credits	
	Lecture	Recit.	Lab.	Project/Field Study	Homework	Other	Total	Credit	ECTS Credit
1, 2	42				20	8	70	3	3.0
Language	Turkish								
Compulsory / Elective	Elective								
Prerequisites	None								
Course Contents	- Energy and Energy Resources - Energy Conversions and Basic Principles - Classical Energy Conversion Technologies - Advanced Energy Conversion Technologies a) Combined and Integrated Cycles b) Advanced/New Energy Conversion Cycles - Energy Conversion Technologies of Renewable Energy Resources								
Course Objectives	The course objective is to enlighten the students on the topics listed below; energy, energy resources, energy conversions and basic principles, the analysis of energy conversion technologies, the explanation, the working principles and the applications of the classical and advanced energy conversion technologies.								
Learning Outcomes and Competences	Students will learn and get the ability of applying their knowledge on the topics of energy, energy resources, energy conversions and basic principles, the analysis of energy conversion technologies, the explanation, the working principles and the applications of the classical and advanced energy conversion technologies. Students will be educated about the how important the new and renewable energy sources are.								
Textbook and /or Reference	1. Korobitsyn, M.A., New and Advanced Energy Conversion Technologies; Analysis of Cogeneration, Combined and Integrated Cycles, Thesis, ISBN 9036511070, University of Twente, 1998. 2. Sorensen, B., Renewable Energy Conversion, Transmission, and Storage, ISBN: 0123742625 Academic Press, 2007. 3. Goswami, D. Y. And Kereith, F., Energy Conversion, ISBN: 10987654321, CRC Press, 2008.								
Assessment Criteria						If any, mark as (x)		Percentage (%)	
	Midterm Exams					1		40	
	Quizzes					-		-	
	Homeworks					3		20	
	Projects					-		-	
	Term Paper					-		-	
	Laboratory Work					-		-	
	Other					-		-	
	Final Exam					1		40	
Instructors	Prof. Dr. İlhami HORUZ								
Week	Subject								
1	Introduction, Energy and Energy Resources								
2	Energy Conversions and Basic Principles, Classical Energy Conversion Technologies								
3	Advanced Energy Conversion Technologies (Combined and Integrated Cycles) I								
4	Advanced Energy Conversion Technologies (Combined and Integrated Cycles) II								
5	Advanced Energy Conversion Technologies (Advanced/New Energy Conversion Cycles) I								
6	Advanced Energy Conversion Technologies (Advanced/New Energy Conversion Cycles) II								
7	Advanced Energy Conversion Technologies (Advanced/New Energy Conversion Cycles) III								
8	Energy Conversion Technologies of Renewable Energy Resources I								
9	Energy Conversion Technologies of Renewable Energy Resources II								
10	Student Presentations								
11	Student Presentations								
12	Student Presentations								
13	Student Presentations								
14	General Discussions and Conclusions								