

Course Title-Course Code ILT525 POROUS MATERIALS IN THE PRODUCTION OF ALTERNATIVE FUELS						Name of the Programme: ADVANCED TECHNOLOGIES		
Semester	Teaching Methods						Credits	
	Lecture	Term Paper	Homework	Project	Other(Self Studying)	Total	Credit	ECTS Credit
1-2	42	-	40	30	76	188	3	7,5
Language	Turkish							
Compulsory / Elective	Elective							
Prerequisites	-							
Course Contents	Today's energy sources and alternative fuels. The properties of alternative fuels (alcohols, ethers, hydrogen etc.), their production technologies and storage systems. The properties and preparation methods of porous materials used for producing and storage of alternative fuels.							
Course Objectives	<ul style="list-style-type: none"> To inform students in the subject of producing alternative fuels by using advanced technologies To explain the porous materials used for production and storage of alternative fuels, their properties and their synthesis methods. 							
Learning Outcomes and Competences	<ul style="list-style-type: none"> To get information about the recent subject. To get the ability to define and solve problem in his/her field by using science and engineering knowledge. To present his/her work in written and oral form. To study interdisciplinary To get the ability to differentiate the correct and required information. 							
Textbook and /or References	<ul style="list-style-type: none"> G. Q. Lu, "Nanoporous materials : science and engineering", London : Imperial College Press, (2004). G.A. Olah, A. Goepfert and G.K.S. Prakash, "Beyond Oil and Gas: The Methanol Economy", Wiley-VCH Verlag GmbH & Co., (2006). "The Handbook of Environmental Chemistry", Springer Berlin / Heidelberg, Volume 5Y/2007. 							
Assessment Criteria						<i>If any, mark as (X)</i>	Percent (%)*	
	Midterm Exams					X		
	Quizzes					-		
	Homeworks					X		
	Projects					X		
	Term Paper					-		
	Other					-		
	Final Exam					X		
* The weights of the assessment criteria are determined by the instructor in the beginning of the semester and announced to the students.								
Instructors	Yrd.Doç.Dr. Dilek Varışlı / May 2008							

Week	Subject
1	Introduction to today's energy sources, alternative fuels and necessities of alternative fuels
2	Alcohols (Ethanol, Methanol etc), their properties
3-4	Porous materials in the production of alcohols and their preparation
5	Ethers (MTBE, ETBE, TAAE, TAME, DME, DEE, vb), their properties
6-8	Porous materials in the production of ethers and their preparation
9	Midterm Exam
10	Biodiesel, its properties
11	Porous materials in the production of biodiesel and their preparation
12	Hydrogen production
13	Porous materials in the production and storage of hydrogen and their preparation
14	Project presentations