

Course Title	Materials for Energy Production, Storage and Conversion				
Course Code	MME 567				
Course Type	Elective				
Level	Graduate				
Year / Semester	Spring semester				
Teacher's Name	Ioannis Giapintzakis				
ECTS	8	Lectures / week	2 X 1,5 hours	Laboratories / week	NO
Course Purpose and Objectives	The main objective of the course is the in-depth familiarization of graduate engineering students with materials issues and challenges concerning the state-of-the-art technologies used or proposed for production, conversion, storage, transport and use of energy, as well as capturing and storing pollutants such as CO ₂ .				
Learning Outcomes	<ul style="list-style-type: none"> • Identify, discuss and compare materials and technologies for energy production • Identify, discuss and compare materials and technologies for energy storage • Identify, discuss and compare materials and technologies for energy transport • Identify, discuss and compare materials and technologies for energy conversion • Identify, discuss and compare materials and technologies for energy use • Identify, discuss and compare materials and technologies for CO₂ capture and storage 				
Prerequisites	NO	Required	NO		
Course Content	This course deals with materials issues that need to be resolved in order for technologies used or proposed for energy production, conversion, storage, transport and use of energy, as well as for CO ₂ capture and storage to become more efficient.				
Teaching Methodology	<p>Lectures; Written report and Presentations by students of individual projects on topics of materials and technologies related to the course</p> <p>Communicative, Collaborative</p> <p>During the first week of the semester, the Syllabus of the course is given by the teacher, which includes information on the course content, expected learning outcomes, assessment and office hours</p>				

Bibliography	«Fundamentals of Materials for Energy and Environmental Sustainability», edited by David Ginley και David Cahen, Materials Research Society & Cambridge University Press, 2012
Assessment	Written report (25%), Project presentation (25%), Midterm Exam (20%), Final Exam (30%)
Language	English