COURSE DESCRIPTION FORM	
Course Code and Title	CHE364 Energy Technology
Course Semester	6
Catalog Description (Content) of the Course	Energy and resources. The scope, cost and efficiencey of energy conversions. Chemical energy, combustion, reversible reactions, batteries and fuel cells. Thermal energy. Nuclear energy. Solar energy. Geothermal energy.
Main Textbook	• Acaroğlu, M., "Alternatif Enerji Kaynakları", Nobel yayınevi, 2007.
Supporting Textbooks	• Tester, J. W., et. al. "Sustainable Energy", MIT press, 2005. • Hanjalic, K., van de Krol, R., Lekic, A., "Sustainable Energy Technologies", Springer, 2008. • Çengel, A. Y., Boles, M. A., 'Thermodynamics: An Engineering Approach' 3.baski.Mc Graw Hill,1999. • Süreli Yayınlar.
Course Credit (ECTS)	3
Prerequisites of the Course (Compulsory attendance should be indicated here.)	-
Type of the Course	Elective
Instruction Language of the Course	English
Object and Target of the Course	To have knowledge about energy technologies and to use engineering, science and mathematics knowledge in this subject.
Learning Outcomes of the Course	1- To recognize the various energy technologies being used and under investigation. 2- To learn the basic principles of energy technologies, 3- To be able to evaluate the advantages and disadvantages of energy technologies.
Mode of Delivery	Face to face
Weekly Schedule of the Course	1. Week Introduction, Energy and Resources. 2. WeekEnergy Conversion Goals, Efficiency and Price Problems 3. Week Combustion and Thermal Energy 4. Week Kimyasal Enerji (Tersinir Tepkimeler, Piller ve Yakıt Hücreleri) 5. Week Nuclear Energy 6. Week Nuclear Energy 7. Week Solar Energy 8. Week Biomass Energy 9. Week Geothermal Energy 10. Week Geothermal Energy 11. Week Term Paper Presentation 12. Week Term Paper Presentation 13. Technical Trip 14. Technical Trip .

Educative Activities
(Credit will be determined based on the time given for these activities. Should be filled carefully.)

Theoretical Study Hours of Course Per Week
Reading
Searching in Internet and Library
Preparing Reports
Preparing Presentation
Presentation
Mid-Term and Studying for Mid-Term
Final and Studying for Final

Assessment Criteria

	Sayısı	**Toplam Katkısı (%)**
Midterm	2	30
Homework	3	10
Assignment	0	0
Projects	1	20
Practice	0	0
Quiz	0	0
Contribution of In-term Studies to Overall Grade		60
Contribution of Final Examination to Overall Grade		40
Attendance		70

Workload of the Course

Activity	**Total Week Count**	**Weekly Duration (in hour)**	**Total Workload in Semester**
Theoretical Study Hours of Course Per Week	14	3	42
Practicing Hours of Course Per Week			
Reading	4	1	4
Searching in Internet and Library	4	1	4
Designing and Applying Materials			
Preparing Reports	2	2	4
Preparing Presentation	1	3	3
Presentation	1	1	1
Mid-Term and Studying for Mid-Term	2	3	6
Final and Studying for Final	1	3	3
Other			
Total work load			67
Total work load/25			2.68
ECTS of the course			3

Course's Contribution To Program

No	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			x		
2	Ability to identify, formulate, and solve complex engineering			x		

			problems; ability to select and apply proper analysis and modeling methods for this purpose.						
		3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.			x			
		4	Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively.			x			
		5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating engineering problems.						
		6	Ability to work efficiently in intra-disciplinary teams.		x				
		7	Ability to work efficiently in multi-disciplinary teams;	x					
		8	Ability to work individually.			x			
		9	Ability to communicate effectively in Turkish/English, both orally and in writing; Ability to write effective reports and comprehend written reports, make effective presentations,				x		
		10	prepare design and production reports, give and receive clear and intelligible instructions.	x					
		11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.			x			
		12	Awareness of professional and ethical responsibility.	x					
		13	Information about business life practices such as project management, risk management, and change management.	x					
		14	Information about awareness of entrepreneurship, innovation, and sustainable development.		x				
		15	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.		x				
		16	Knowledge about awareness of the legal consequences of engineering solutions.	x					
		17	Knowledge on standards used in engineering practice.	x					
Name of Lecturer(s) and Contact Information		1. Assoc. Prof. Dr. S. Ferda MUTLU, sfmutlu@gmail.com							