

1. Course Description

COURSE DESCRIPTION FORM																													
Course Code and Title	KM360 Natural Gas and Applications																												
Course Semester	6																												
Catalog Description (Content) of the Course	Properties and composition of natural gas. Recovery, pretreatment, transportation and storage. Usage as raw material for chemical products. Measurement, control and safety systems.																												
Main Textbook	Boyun, Guo and Ali Ghalambor, Natural Gas Engineering Handbook, Second Edition, Gulf Publishing Company, Houston, Texas, 2005.																												
Supporting Textbooks	James G. Speight, Natural Gas: A Basic Handbook, Gulf Publishing Company, Houston, Texas, 2007.																												
Course Credit (ECTS)	3																												
Prerequisites of the Course (Compulsory attendance should be indicated here.)	There is no prerequisites.																												
Type of the Course	Elective																												
Instruction Language of the Course	Turkish																												
Object and Target of the Course	Informing the students about the comparison of the natural gas which is used as a chemical raw material and an energy source with other fuels and raw materials, knowing its advantages and disadvantages, using the industry and taking necessary safety precautions.																												
Learning Outcomes of the Course	Acquisition of related information of natural gas combustion products, installation characteristics, economic applications and design																												
Mode of Delivery	Face to face																												
Weekly Schedule of the Course	<table> <tr><td>1. Week</td><td>Introduction.</td></tr> <tr><td>2. Week</td><td>Properties of Natural gas.</td></tr> <tr><td>3. Week</td><td>Gas Reservoir Deliverability.</td></tr> <tr><td>4. Week</td><td>Wellbore Performance.</td></tr> <tr><td>5. Week</td><td>Choke Performance.</td></tr> <tr><td>6. Week</td><td>Well Deliverability.</td></tr> <tr><td>7. Week</td><td>Well Deliverability</td></tr> <tr><td>8. Week</td><td>Seperation.</td></tr> <tr><td>9. Week</td><td>Dehydration.</td></tr> <tr><td>10. Week</td><td>Compression and Cooling.</td></tr> <tr><td>11. Week</td><td>Volumetric Measurement.</td></tr> <tr><td>12. Week</td><td>Transportation.</td></tr> <tr><td>13. Week</td><td>Transportation.</td></tr> <tr><td>14. Week</td><td>Special Problems.</td></tr> </table>	1. Week	Introduction.	2. Week	Properties of Natural gas.	3. Week	Gas Reservoir Deliverability.	4. Week	Wellbore Performance.	5. Week	Choke Performance.	6. Week	Well Deliverability.	7. Week	Well Deliverability	8. Week	Seperation.	9. Week	Dehydration.	10. Week	Compression and Cooling.	11. Week	Volumetric Measurement.	12. Week	Transportation.	13. Week	Transportation.	14. Week	Special Problems.
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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		Quantity	Total Contribution (%)						
	Midterm	2	40						
	Homework	1	20						
	Assignment								
	Projects								
	Practice								
	Quiz								
	Contribution of In-term Studies to Overall Grade		60						
	Contribution of Final Examination to Overall Grade		40						
Attendance									
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		7	1	7				
	Searching in Internet and Library		7	1	7				
	Designing and Applying Materials								
	Preparing Reports		2	2	4				
	Preparing Presentation		2	2	4				
	Presentation		2	1	2				
	Mid-Term and Studying for Mid-Term		2	3	6				
	Final and Studying for Final		3	1	3				
	Other								
	Total work load				75				
	Total work load/25				3				
ECTS of the course				3					
Course's Contribution To Program	Number	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 problems; ability to select and apply proper analysis and modeling methods for this purpose.				X			
	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					X		

		apply modern design methods for this purpose.					
	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.			X		
	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. Doç. Dr. Muzaffer BALBAŞI mbalbasi@gazi.edu.tr					