

1. Course Description

COURSE DESCRIPTION FORM	
Course Code and Title	KM352 Geothermal Energy And Application
Course Semester	6
Catalog Description (Content) of the Course	Characteristics of geothermal resources, geothermal energy utilization ways to teach geothermal energy processes
Main Textbook	Dickson, M.F., Fanelli, M., Geothermal Energy, John Wiley&Sons, 1995
Supporting Textbooks	
Course Credit (ECTS)	3
Prerequisites of the Course (Compulsory attendance should be indicated here.)	-
Type of the Course	Elective
Instruction Language of the Course	Turkish
Object and Target of the Course	Characteristics of geothermal resources, geothermal energy utilization ways to teach geothermal energy processes
Learning Outcomes of the Course	1.Recognition of the need for lifelong learning 2.Ability to access information, to follow developments in science and technology, and to continue to educate him/herself
Mode of Delivery	Face to face education
Weekly Schedule of the Course	1. Week Introduction, history, reserves, Physical and chemical properties of geothermal resources. 2. Week Introduction, history, reserves, Physical and chemical properties of geothermal resources. 3. Week Research methods of geothermal sources, applications in Turkey and in the World 4. Week Research methods of geothermal sources, applications in Turkey and in the World 5. Week Research methods of geothermal sources, applications in Turkey and in the World 6. Week Research methods of geothermal sources, applications in Turkey and in the World 7. Week Usage and benefit methods of geothermal energy, farming, heating, tourism, cooling and drying etc. 8. Week Usage and benefit methods of geothermal energy, farming, heating, tourism, cooling and drying etc. 9. Week Usage and benefit methods of geothermal energy, farming, heating, tourism, cooling and drying etc. 10. Week Electricity production methods and applications 11. Week Electricity production methods and applications 12. Week Electricity production methods and applications 13. Week Electricity production methods and applications 14. Week Electricity production methods and applications
Educative Activities <i>(Credit will be determined based on the time given for these activities. Should be filled carefully.)</i>	Theoretical Study Hours of Course Per Week Reading Mid-Term and Studying for Mid-Term Final and Studying for Final

Assessment Criteria		Quantity	Total Contribution (%)							
	Midterm	2	60							
	Homework									
	Assignment									
	Projects									
	Practice									
	Quiz									
	Contribution of In-term Studies to Overall Grade		60							
	Contribution of Final Examination to Overall Grade	1	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	8	3	24						
	Searching in Internet and Library									
	Designing and Applying Materials									
	Preparing Reports									
	Preparing Presentation									
	Presentation									
	Mid-Term and Studying for Mid-Term	2	3	6						
	Final and Studying for Final	1	4	4						
	Other									
	Total work load			76						
	Total work load/25			3,04						
	ECTS of the course			3						
	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			X					

			problems.						
	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 apply modern design methods for this purpose. (Realistic constraints and conditions may include factors such as economic and environmental issues, sustainability, manufacturability, ethics, health, safety issues, and social and political issues, according to the nature of the design.)							
	4	Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively.							
	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.							
	7		Ability to work efficiently in multi-disciplinary teams							
	8		Ability to work individually.							
	9		Ability to communicate effectively in Turkish, 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.							
	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.							
	14		Information about awareness of entrepreneurship, innovation, and sustainable							

			development.						
	15		Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.						
	16		Knowledge about awareness of the legal consequences of engineering solutions.						
	17		Knowledge on standards used in engineering practice.		X				
Name of Lecturer(s) and Contact Information		Prof. Dr. Metin GÜRÜ- Email: mguru@gazi.edu.tr							