T.C. ESKİŞEHİR OSMANGAZİ UNIVERSITY
ENGINEERING AND ARCHITECTURE FACULTY
MECHANICAL ENGINEERING DEPARTMENT

COURSE INFORMATION FORM

SEMESTER	Fall

COURSE CODE	151817442 151837442	COURSE NAME	NATURAL GAS SYSTEMS

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
7	3	-	-	3	5	COMPULSORY ( ) ELECTIVE (X)	Turkish

COURSE CATAGORY			
Basic Science	Basic Engineering	Mekhanical Engineering [if it contains considerable design, mark with (√)]	Social Science
		(X)	

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term	1	30
	Quiz		
	Homework		
	Project	1	30
	Report		
	Others (……)		
FINAL EXAM		1	40

PREREQUIEITE(S)	
COURSE DESCRIPTION	Natural gas properties, combustion equations, upper and lower thermal value calculations, combustion air, combustion products account, natural gas usage areas in the industry, natural gas conversion of boilers, recuperators, automatic control devices, natural gas interior and exterior installation project preparation.
COURSE OBJECTIVES	The aim of the course is to acquire the skill of recognizing, interpreting and designing various natural gas systems
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	To gain the skill of solving the problems and learning the systems they will encounter in practice by using the topics given in various lessons during the course of mechanical engineering education.
COURSE OUTCOMES	1. To teach characteristics of natural gas, combustion, lower and upper thermal value, calculation of combustion products combustion air 2. To give information about condensing boilers, to teach where natural gas is used in the industry 3. To have knowledge about the composition of natural gas and the compounds of natural gas 4. To show examples how to make the internal and external natural gas installation project
TEXTBOOK	Prof. Dr. T. Hikmet Karakoç, Doğal gaz Tesisatı , TS 7363 Doğal gaz –bina iç tesisatı projelendirme ve uygulama kuralları
OTHER REFERENCES	
TOOLS AND EQUIPMENTS REQUIRED	

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Properties of natural gas
2	Combustion equations
3	Combustion equations
4	Lower and upper thermal value calculations
5	Lower and upper thermal value calculations
6	Combustion air, combustion products account
7	Natural gas external installation project
8	Mid-Term Examination 1
9	
10	Natural gas external installation project
11	Natural gas external installation project
12	Natural gas internal installation project
13	Natural gas internal installation project
14	Natural gas internal installation project
15,16	Final Exam

NO	PROGRAM OUTCOMES	3	2	1
1	Sufficient knowledge of engineering subjects related with mathematics, science and mechanical engineering; an ability to apply theoretical and practical knowledge on solving and modeling of mechanical engineering problems.	**X**		
2	Ability to determine, define, formulate and solve complex mechanical engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.		**X**	
3	Ability to design a complex system, a component and/or an engineering process under real life constrains or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.	**X**		
4	Ability to develop, select and use modern methods and tools required for mechanical engineering applications; ability to effective use of information technologies.		**X**	
5	In order to investigate mechanical engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.	**X**		
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	**X**		
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.		**X**	
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.		**X**	
9	Understanding of professional and ethical issues and taking responsibility	**X**		
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	**X**		
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.		**X**	
1:None. **2**:Partially contribution. **3**: Completely contribution.				

Prepared by: Ass. Prof. Özge Altun **Date:** 13.11.2017

Signature(s):