



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

COURSE INFORMATION FORM

SEMESTER | Fall

COURSE CODE	151817479	COURSE NAME	STEAM BOILERS
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAG E
7th	3			3	5	COMPULSORY ( ) ELECTIVE (x)	TURKISH

COURSE CATAGORY

Basic Science	Basic Engineering	Engineering Subjects [if it contains considerable design, mark with (√) ]	Social Science
	100	( )	

ASSESSMENT CRITERIA

MID-TERM	Evaluation Type	Quantity	%
	Mid-Term		1
	Quiz		
	Homework		
	Project		
	Report		
	Others (.....)		
FINAL EXAM		1	50

PREREQUIEITE(S)

COURSE DESCRIPTION

Clasification of Steam Boilers, Big Volume Steam Boilers,Water Pipe Boilers,Equipments of Special Boilers, Special Steam Boilers Structures, Boiler Auxiliary Elements, Introduction to Nuclear Power Plants, Calculations of Lower and Higher Heating Values,Calculations of Needed Air Value and Smoke Value from Chimney,,Burning of Gas Fuel, Control of Burning, Firing Radiation,Gas Radiation of Solids, Particle Radiation,Furnace Tempareture Calculation, Calculations of load loss and chimney.

COURSE OBJECTIVES

Ability to understand and design of steam boilers during the mechanical engineering education period.

ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION

Recognition of Staem Boilers Construction,Learning of obtaining of heat, to learn burning productions and burning air. Recognizing of helping elenmets in Steam Boilers and helping of developing those elements. Learning of thermal calculations of Boilers and areas of usage of natural gas in Industries.

COURSE OUTCOMES

Having knowledge about the steam boiler

TEXTBOOK

Buhar kazanlarının ısı hesapları / Onat Kemal; Osman F. Genceli, Ahmet Arısoy.Buhar Kazanları : Konstrüksiyon Ve Yardımcı Elemanları / Osman F. Genceli

OTHER REFERENCES

Buhar kazanlarında ısı tekniği / Behram Öztürk. Buhar kazanları : duman borulu : termodinamik konstrüksiyon mukavemet hesapları / Abdullah Eker

TOOLS AND EQUIPMENTS REQUIRED

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COURSE SYLLABUS	
WEEK	TOPICS
1	Clasification of Steam Boilers
2	Big Volume Steam Boilers, Water Pipe Boilers
3	Special Steam Boilers Structures
4	Boiler Auxiliary Elements
5	ntroduction to Nuclear Power Plants
6	Calculations of Lower and Higher Heating Values
7	Calculations of Needed Air Value and Smoke Value from Chimney
8	Mid-Term Examination
9	Mid-Term Examination
10	Burning of Gas Fuel, Control of Burning
11	Burning of Gas Fuel, Control of Burning
12	Firing Radiation, Gas Radiation of Solids, Particle Radiation
13	Furnace Temperature Calculation
14	Calculations of load loss and chimney
15,16	Final Exam

NO	PROGRAM OUTCOMES	3	2	1
1	Sufficient knowledge of engineering subjects related with mathematics, science and own branch; an ability to apply theoretical and practical knowledge on solving and modeling of engineering problems.	[ x ]	[ ]	[ ]
2	Ability to determine, define, formulate and solve complex 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 engineering applications; ability to effective use of information technologies.	[ ]	[ x ]	[ ]
5	In order to investigate 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. Nihal UĞURLUBİLEK

Date:14/11/17

Signature(s):