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

COURSE INFORMATION FORM

SEMESTER	Spring

COURSE CODE	151818668-151838668	COURSE NAME	Industrial Furnaces

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
8	3	0		3	5	COMPULSORY ( ) ELECTIVE (X)	Turkish

COURSE CATAGORY			
Basic Science	Basic Engineering	Mechanical Engineering Subjects [if it contains considerable design, mark with (√)]	Social Science
	25%	75%(√)	

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term		
	2nd Mid-Term		
	Quiz		
	Homework	2	30
	Project		
	Report		
	Others (……)		
FINAL EXAM		1	40

PREREQUIEITE(S)	
COURSE DESCRIPTION	Industrial heating processes, Heat transfer in furnaces, heating capacity of batch and continuous furnaces, gas movement in furnaces, calculations specifying a furnace, materials in industrial furnace construction.
COURSE OBJECTIVES	Students will be familiarized with the furnaces used for industrial applications of production. Classification of furnaces, furnaces efficiency and heat losses heat recovery processes will be explained.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	Furnace systems used in various industrial applications recognize, making heat transfer calculations and choosing a suitable furnacer gain the skills.
COURSE OUTCOMES	To recognize industrial furnace system Can calculate the heat transfer in industrial furnaces. Learn the system energy savings in industrial furnaces. To recognize industrial furnace construction materials
TEXTBOOK	1. W. Trinks, M.H. Mawhinney, R.A. Shannon R.J. Reed J.R. Garvey, Industrial Furnaces, Sixth Edition, John Wiley &Sons,Inc. 2. M. A. Topbaş, Endüstriyel Fırınlar –I-II, 1990.
OTHER REFERENCES	1. Prof.Dr.Cemalettin YAMAN “Endüstri Fırınları Ders Notları” YTÜ,2001
TOOLS AND EQUIPMENTS REQUIRED	

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Industrial heating processes
2	Heat transfer in industrial furnaces
3	Heat transfer in industrial furnaces
4	Heating capacity of batch furnaces
5	Heating capacity of batch furnaces
6	Heating capacity of continuous furnaces
7	Heating capacity of continuous furnaces
8	Mid-Term Examination
9	Mid-Term Examination
10	Saving enegy in industrial furnaces systems
11	Gas Movement in industrial furnaces
12	Calculations specifying a furnace
13	Calculations specifying a furnace
14	Materials in industrial furnace construction
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.			
4	Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies.			
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.			
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.			
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.			
9	Understanding of professional and ethical issues and taking responsibility			
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.			
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.			
1:None. **2**:Partially contribution. **3**: Completely contribution.				

Prepared by: Doç. Dr. Mesut TEKKALMAZ **Date:**

Signature(s):