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

COURSE INFORMATION FORM

	SEMESTER	Fall

COURSE CODE	151817430		COURSE NAME	HYDRAULIC CIRCUITS	

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
7	3	0	3	3	5	COMPULSORY ( ) ELECTIVE (X)	Turkish

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

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

COURSE DESCRIPTION	Description of Hydraulic control systems, circuits ve prediction methods
COURSE OBJECTIVES	Student will meet during engineering. Lecture will prepare them to all kinds of such control systems
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	The aim is to prepare the student to ındustry give experience them for ındustry.
COURSE OUTCOMES	Recognition, design and troubleshhoting of Hydraulic systems ın industry
TEXTBOOK	-Hydraulic Systems, Ravi Doddannavar, Andries Barnard, Elsevier, March, 2005, ISBN:075066276X-Hydraulic and Pnömatik teori ve uygulamaları, Prof.Dr.Yaşar Pancar, 1998, A.Ü Müh.Mim.Fakültesi Koruma Derneği Basımı (600 sahife)
OTHER REFERENCES	Handbook of Hydraulic Fluid Technology, George Toten, Union Carbide Corporation, Tarrytown, Newyork, ISBN:0-8247-6022-0, Marcel Dekker Inc, Hydraulic handbook, 8th Ed., R.H.Warring, Trade and Techn.Press Ltd.Surrey, SM4 5Ew, England, ISBN 85461-094-4, 1983
TOOLS AND EQUIPMENTS REQUIRED	

COURSE SYLLABUS

WEEK	TOPICS
1	Princibles of Hydraulic Conrols
2	Hydraulic and Mechanisation , safety systems.
3	Cost analysis in Hydraulic systesm.
4	Valves
5	Application of hydraulic systems to industry
6	Solution of sample circuits
7	Hydraulic cyclinders, motors
8	Mid-Term Examination
9	Mid-Term Examination
10	Air-Fluid circuits
11	Hydraulic units
12	Cıntrol of piston speed, air bleed and time relay at circuits
13	Automatic circuits and sequnce control
14	Hydraulic circuits of all kinds of ındustrial machinery
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			
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: **Date:**

Signature(s):