T.C.ESKİŞEHİR OSMANGAZİ ÜNİVERSİTESİ

THE GRADUATE SCHOOL OF SOCIAL SCIENCES

COURSE INFORMATION FORM

SEMESTER	Fall

COURSE CODE		**COURSE NAME**	**ELECTRICAL DISTRIBUTION SYSTEMS**

SEMESTER	**WEEKLY COURSE PERIOD**			**COURSE OF**			
	Theory	**Practice**	**Laboratory**	**Credit**	**ECTS**	**TYPE**	**LANGUAGE**
	3	-	-	3	5	COMPULSORY ( ) ELECTIVE (*)	English

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

ASSESSMENT CRITERIA			
	Evaluation Type	**Quantity**	**%**
MID-TERM	1st Mid-Term	1	30
	2nd Mid-Term		
	Quiz	1	10
	Homework		
	Project		
	Report		
	Others (……)		
FINAL EXAM			60

PREREQUIEITE(S)	----------
COURSE DESCRIPTION	This electrical distribution course introduces the component of the distribution system and the way in wich the systems delivers power to end-use customers. Included in the course are descriptions of key system components including single and three phase lines as Wye and delta lines.
COURSE OBJECTIVES	1-To provide student with understand different type of power distribution systems and their usage in to days life. 2-To familiarize student with protection and coordination of protective device in distribution systems
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	----------
COURSE OUTCOMES	1-understand the distribution system planning and automation 2-Differentiate the type of load and their characteristics 3-Explain the design consideration of sub transmission lines 4-Understand different load and their characteristics and design the distribution feeders.
TEXTBOOK	A S pabla:"Electric power Distribution",Tata McGraw-hill publishing company,4th Edition,1997
OTHER REFERENCES	Turan Gonen "Electric Power Distribution System,Engineering"McGraw-hill Book company.
TOOLS AND EQUIPMENTS REQUIRED	----------

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Introduction to distribution systems, Load modeling and characteristics, Coincidence factor, Contribution factor loss, Relationship between the load factor and loss factor,
2	Classification of load: Residential, Commercial, agricultural and industrial and their characteristics
3	Design and consideration of distribution feeders, Radial and loop types of primary feeders,
4	Voltage levels, Feeder loading, basic design practice of secondary distribution system.
5	Substations: rating of distribution substation, service area within primary feeders, Benefits derived through optimal location of substations
6	Distribution system analysis: Voltage drop and power-loss calculation, Derivation of voltage drop and power loss in line,
7	Manual method of solution for radial networks, Three phase balanced primary lines
8	Midterm Examination
9	Protective devices and co-ordination: objectives of distribution system protection, Type of common faults and procedure for fault calculation
10	Protective device: principle of operation fuses, circuit recourses, and line sectionalizes, and circuit breakers
11	Coordination of protective devices: general coordination procedure
12	voltage control :equipment for voltage control, effect of series capacitors, line drop compensation, line drop compensation
13	Effect of AVR, power factor control, Using different type of power capacitors, shunt and series capacitors, effect of shunt capacitors, Power factor correction,
14	capacitor allocation-economic justification-procedure to determine the best capacitor location
15,16	Final Examination

DİKKAT!... Aşağıdaki PROGRAM ÇIKTILARI Mühendislik için yazılmıştır. BÖLÜM kendi eğitim amaç ve hedeflerini destekleyen Program Çıktılarını belirledikten sonra bu kısım hazırlanmalıdır. ŞABLON OLARAK KULLANMAYINIZ

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.			
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.			
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.		*	
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.				

Instructor(s): Signature: **Date:**