

İstanbul Commerce University
Engineering and Design Faculty
Mechatronics Engineering Department
EEE223 Electronic Circuits Course Description Form

Course		Term	Theory	Application	Credit	ECTS
Name	Code					
Electronic Circuits	EEE223	3	3	1	3.5	6
Prerequisite	None					
Course Duration	Starts: 26.09.2022 Ends: 30.12.2022					
Course Language	English					
Course Type	Compulsory					
Course Level	Undergraduate					
Instructors	Asst. Prof. Dr. Vedat TAVAS					
Contact	vtavas@ticaret.edu.tr , 0 216 489 18 88 (Ext : 3343), http://ww3.ticaret.edu.tr/vtavas/					
Teaching Assistant	None					
Objective of The Course	Conceptive overview of devices, circuit elements, law and methods in electrical engineering, teaching laws of circuit theory and design passive or active circuits.					
Course Learning Outcomes (CLO)	1) Knows basic passive electronic elements. 2) Knows basic active electronic circuit elements 3) Analyze the circuits in DC 4) Analyze the circuits in AC 5) Design Electronic Amplifiers					
Teaching Methods	Face to face, experiments.					
Course Content (brief)	Circuit Concepts, Circuit Analysis Techniques, Time-Dependent Circuit Analysis, Operational Amplifiers, Semiconductor Devices (Diode, Transistors), Transistor Amplifiers,					

WEEKLY COURSE OUTLINE

1	Introduction; Circuit Concepts
2	Circuit Concepts
3	Circuit Analysis Techniques
4	Time-Dependent Circuit Analysis
5	Time-Dependent Circuit Analysis
6	Time-Dependent Circuit Analysis
7	Time-Dependent Circuit Analysis
8	Mid-Term Exam
9	Operational Amplifiers
10	Operational Amplifiers
11	Semiconductor Devices - Diodes
12	Semiconductor Devices – Transistors (BJT-FET)
13	Transistor Amplifiers
14	Transistor Amplifiers

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Resources	Textbook	1. Introduction to Electrical Engineering, M. S. Sarma, Oxford, 2001.
	Recommended Books	2. Electrical and Electronic Principles and Technology, John Bird, Newnes, 2003. 3. Electrical Course for Apprentices and Journeymen, Audel, 2004. 4. Principles and Applications of Electrical Engineering 5E, G. Rizzoni, McGraw-Hill, 2011.
Teaching Equipment		Computer and presentation projector.

Evaluation System

Activities during the term	Studies	Number	Contribution %
	Homework	0	0
	Presentation	0	0
	Mid Term Exams	1	40
	Project	0	0
	Laboratory	0	0
	Field Study	0	0
	Quiz	0	0
	Term Project	0	0
	Portfolio	0	0
	Reports	0	0
	Learning Diaries	0	0
	Graduate Project	0	0
	Seminar	0	0
	Others	0	0
	Sub Total	10	60
	During Term Studies Contribution	-	60
	Final Exam Contribution (≥ 40%)	-	40
	TOTAL		100

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COURSE AND PROGRAM LEARNING OUTCOMES RELATIONSHIP

No	Program Learning Outcomes (PLO), (Contribution Rate: 1 lowest, 5 highest)	Course Learning Outcomes (CLO)				
		1	2	3	4	5
1	a. Qualified knowledge of mathematics, science and related engineering discipline;	5	5	5	5	5
	b. ability to use theoretical and practical knowledge to model and solve complex engineering problems.	5	5	5	5	5
2	a. An ability to identify, formulate, and solve complex engineering problems;					
	b. the ability to select and apply appropriate analysis and modeling methods for this purpose.					
3	a. An ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions;					
	b. the ability to apply modern design methods for this purpose.					
4	a. Ability to develop, select and use modern techniques and tools necessary for the analysis and solution of complex problems in engineering applications;					
	b. ability to use information technologies effectively.					
5	Ability to design, conduct experiments, collect data, analyze and interpret results to investigate complex engineering problems.					
6	a. Ability to work effectively in disciplinary and multidisciplinary teams;					
	b. self-study skills.					
7	a. Ability to communicate effectively in verbal and written Turkish;					
	b. knowledge of at least one foreign language;					
	c. ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give clear and understandable instructions and receiving skills.					
8	a. Awareness of the necessity of lifelong learning;					
	b. the ability to access information, follow developments in science and technology, and constantly renew oneself.					
9	a. To act in accordance with the ethical principles, professional and ethical responsibility awareness;					
	b. information about standards used in engineering applications.					
10	a. Information on business practices such as project management, risk management and change management;					
	b. awareness about entrepreneurship and innovation;					
	c. information on sustainable development.					
11	a. Information about the effects of engineering applications on health, environment and safety in universal and social dimensions and the problems reflected in the engineering field of the age;					
	b. awareness of the legal consequences of engineering solutions.					

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ECTS-WORK LOAD TABLE

Activities	Week	Time (Hour)	Total Work Load
Course Duration	13	4	52
Out of Classroom Studies Duration	13	3	39
Homework	0	0	0
Presentation	0	0	0
Midterm Exam	1	30	20
Project	0	0	0
Laboratory	0	0	0
Field Study	0	0	0
Final Exam	1	40	30
Quiz	0	0	0
Term Project	0	0	0
Portfolio Study	0	0	0
Report	0	0	0
Learning Diaries	0	0	0
Graduation Project	0	0	0
Seminar	0	0	0
Other	0	0	0
Total Work Load			145
Total Work Load / 25			5,8
ECTS			6

Approval	Head of The Department	Prof. Dr. Abdülkerim Kar
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