



İstanbul Ticaret Üniversitesi
Mühendislik Fakültesi
Elektrik-Elektronik Mühendisliği İngilizce Lisans Programı

Prepared by: Doç. Dr. Serhan YARKAN

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Course		Term	Theory	Application	Credit	ECTS
Name	Code					
Electronics Laboratory	EEE301	2019-2020 Güz	0	3	1,5	3

Course Duration	2019-09-16 - 2020-01-08
Course Language	İngilizce
Course Type	Zorunlu
Course Level	Lisans
Instructors	Doç. Dr. Serhan YARKAN Doç. Dr. Serhan YARKAN
Contact	Dahili: 3334 Oda: B-33 Birim: Elektrik-Elektronik Mühendisliği İngilizce Lisans Programı Görev: Öğretim Üyesi, syarkan@ticaret.edu.tr Dahili: 3334 Oda: B-33 Birim: Elektrik-Elektronik Mühendisliği İngilizce Lisans Programı Görev: Öğretim Üyesi, syarkan@ticaret.edu.tr
Objective of the Course	To teach main theory of electronic circuits via lab equipments
Course Learning Outcomes (CLO)	<ul style="list-style-type: none"> • Learn basic electronics elements • Gain knowledge about designing experiments • Understand different ways of measuring quantities for electronics circuits • Calculate the basic parameters of electronics circuits • Combine fundamental electronics circuit elements and design more complex circuitry • Emulate the characteristics of specific electronics circuit behaviors
Teaching Methods	Face to face
Course Content (Brief)	FET, JFET, MOSFET and their DC models, Oscillators, Differential and multistage amplifiers, Current mirrors
Prerequisite(s) / Co-requisites(s)	

Weekly Course Outline

Week 1	FET, JFET, MOSFET and their DC models
Week 2	FET, JFET, MOSFET and their DC models
Week 3	FET, JFET, MOSFET and their DC models
Week 4	FET, JFET, MOSFET and their DC models
Week 5	FET, JFET, MOSFET and their DC models
Week 6	Oscillators
Week 7	Oscillators
Week 8	Oscillators

Week 9	Differential and multistage amplifiers
Week 10	Differential and multistage amplifiers
Week 11	Differential and multistage amplifiers
Week 12	Current mirrors
Week 13	Current mirrors
Week 14	Current mirrors

Resources	Textbook	Sedra and Smith, "Microelectronic Circuits", 5th Edition, Oxford
	Recommended Books	J.J. Brophy (McGraw-Hill, "Basic Electronics for scientists", 5th edition)
Teaching Equipment		Computer and presentation projector.

Evaluation System

Activiesduring the term	Studiess	Number	Contribution
	Homework	13	60
	Presentation	0	0
	Mid Term Exams	0	0
	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	13	60
	During Term Studies Contribution		60
	Final Exam Contribution (>40%)		40
	Total		100

Course and Program Learning Outcomes Relationship

Number	Program Learning Outcomes (PLO)	Course Learning Outcomes (CLO)					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO1	Basic sciences and Electrical - Electronic Engineering in the field of theoretical and practical knowledge sufficient level wins.	5	5	5	5	5	5
PLO2	Theoretical and practical knowledge gained in the field of Electrical and Electronics Engineering uses.	5	5	5	5	0	5
PLO3	Experiments in the field of Electrical and Electronics Engineering designs, executes, analyzes the data and interpretations.	5	5	5	5	5	5
PLO4	For the problems it encounters in the field of Electrical	5	5	5	5	5	5

	and Electronics Engineering Selects and applies appropriate analytical methods and modeling techniques.						
PLO5	A system that is believed to be necessary in the field of Electrical and Electronics Engineering, design components or processes.	5	5	5	5	5	5
PLO6	Makes an individual or team work within the discipline and interdisciplinary.	0	0	0	0	0	0
PLO7	Makes access to information and research resource for this purpose, use databases and other information resources.	0	0	0	0	0	0
PLO8	Lifelong learning is a conscious aware of this requirement.	1	1	1	1	1	1
PLO9	Required by the technological innovations of Electrical and Electronics Engineering will follow, predicts that innovations in technology that will be needed, and provides the necessary contributions.	1	1	1	1	1	1
PLO10	At least one foreign language oral and written communication skills, wins the best use of this language.	1	1	1	1	1	1
PLO11	Professional and scientific achievements of learned knowledge and skills in professional communication have much to transfer them to others.	1	1	1	1	1	1
PLO12	Innovative studies in the field of Electrical and Electronics Engineering, field applications, business and human safety, environmental sensitivity issues have the highest awareness and consciousness.	0	0	0	0	0	0

ECTS- Work Load Table

Activities	Week	Time (hour)	Total Work Load
Course Duration	0	0	0
Out of Classroom Studies Duration	13	1	13
Homework	13	1	13
Presentation	0	0	0
Mid Term Exam	0	0	0
Project	0	0	0
Laboratory	13	3	39
Field Study	0	0	0
Final Exam	1	10	10
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			
Total Work Load / 25			
Course ECTS			3

Contribution of the Course to the Field / Vocational Education

Approval	Head of The Department	