YEDİTEPE UNIVERSITY
FACULTY OF ENGINEERING

COURSE DESCRIPTION FORM

COURSE INFORMATION				
Course Code	**ES 222**	**Course Title**	**Fundamentals of Electrical and Electronics Engineering**	
Semester	*Credits*	*ECTS*	*C +P + L Hour*	Prerequisites
-	3	5	3+0+0	----

Language of Instruction	**Course Level**	**Course Type**
English	Undergraduate	Core/Elective

Course Coordinator	Assist. Prof. Dr. İpek Baz (E-mail: ipek.baz@yeditepe.edu.tr) Dr. Anıl Özdemirli (E-mail: anil.ozdemirli@yeditepe.edu.tr)
Assistants	-
Goal	To develop the fundamental tools of linear circuit analysis which will be useful to all engineers. To learn the "alphabet" of circuits, including wires, resistors, capacitors, inductors, voltage and current sources, and operational amplifiers. To prepare students for more advanced courses in circuit analysis. The second aim of this course is to introduce students to discrete and continuous signals and systems. This course also prepares the background for compulsory courses in communication and control systems.

COURSE CONTENT

Week	Topics
1	Introduction to Signal Processing
2	Sinusoids
3	Spectrum Representation
4	Spectrum Representation / Sampling
5	Sampling
6	FIR Filters
7	Midterm Exam
8	Overview of Electrical and Electronics Engineering, introduction to basic concepts of EEE
9	Definitions of voltage and current, direct and variable quantities, resistor, conductor, induc voltage and current sources
10	Circuit definition, series and parallel circuits

11	Ohm's law, Kirchhoff's voltage and current laws, models for power sources and measurem
12	Node voltage and mesh current analysis
13	Superposition principle, Thevenin and Norton theorems
14	Introduction to digital circuits

Note: This syllabus and schedule are subject to change. If you are absent from class, it is your responsibility to check on announcements made while you were absent.

RECOMMENDED SOURCES	
Textbook	1- DSP First, 2nd Edition; J. H. McClelland, R. W. Schafer, M. A. Yoder; Prentice Hall Inc., 2016. 2- Richard C. Dorf and James A. Svoboda, Introduction to Electric Circuits, John Wiley 3- Digital System Design with FPGA: Implementation Using Verilog and VHDL, 2017.
Additional Resources	-

ASSESSMENT

IN-TERM STUDIES	**NUMBER**	**PERCENTAGE**
Midterms*	1	50
Final Exam**	1	50
Total		**100**

***Mid-term exam**: Date to be announced. Coverage: All lecture content covered prior to midterm date.

****Final exam**: Date to be announced. Coverage: All lecture content covered throughout the semester.

Each and every exam will be conducted in class. Makeup exams will be offered just after the final exam to those, who could not attend the midterm exams or final exam, at the end of the semester.

- **Students must get a Makeup exam (Bütünleme) grade of at least 40/100 in order to pass the course. The one who has Makeup exam grade less than 40 points will be graded as FF)**

Mid-term exam : 50 points, **Final exam:** 50 points.

Final grading: F<45, 45≤DD<50, 50≤DC<55, 55≤CC<65, 65≤CB<70, 70≤BB<80, 80≤BA<90, 90≤AA.

Attendance:

Lectures: 80**%** minimum.

Prepared by: Assist. Dr. İpek Baz Dr. Anıl Özdemirli	Preparation date: 28/09/2023