



MUTAH UNIVERSITY
Faculty of Engineering
Department of Electrical Engineering
Course Syllabus
Study Plan 2021: Power and Control Track



Course Code	Course Name	Credits	Contact Hours
0401231	Electronic Circuits and Devices lab	1	2 T

INSTRUCTOR/COORDINATOR	
Name	Dr. Ziyad Al Tarawneh
Email	zdtarawneh@mutah.edu.jo
Office Hours	14:00-16:00 (Mon)
Classroom Time	11:00-12:00 (Sun, Tues, Thur)

TEXTBOOK	
Title	Laboratory Manual for Electronic Devices and Circuits
Author/Year/Edition	
Other Supplemental Materials	
Title	Electronic Devices and Circuit Theory
Author/Year/Edition	Robert Boylestad, 11th edition

SPECIFIC COURSE INFORMATION
A. Brief Description of the Content of the Course (Catalog Description)
This lab aims to provide students with information about: Diode and Zener Diode Characteristics, Rectifiers, Clipping and clamping circuits, BJT Characteristics, the Common Emitter Amplifier, the Common Collector Amplifier, the Common base Amplifier, N-Channel JFET Characteristics, Common Source JFET Amplifier, Common Drain JFET Amplifier Operational Amplifier Inverting and non-inverting configurations. Integrator and Differentiator. op-amp applications.
B. Pre-requisites (P) or Co-requisites (C)
Electronic Circuits and Devices (0401230) (C) Electric Circuits & Filters Lab (0401219) (P)
C. Course Type (Required or Elective)

Required

SPECIFIC GOALS

A. Course Learning Outcomes (CLOs)

By the end of this course, the student should be able to:

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CLO1: Learn how to build different electronic circuits such as rectifier circuit, clamper, and clipper circuits, BJT and FET amplifiers and different op_amp circuits[6].

CLO2: Connecting the laboratory with the theoretical material and proving the results of mathematical equations [6].

CLO3: Work effectively in groups (teamwork) by sharing discuss and analyze the results [5].

B. Student Learning Outcomes (SLOs) Addressed by the Course

1	2	3	4	5	6	7
				✓	✓	

BRIEF LIST OF TOPICS TO BE COVERED

List of Topics	No. of Weeks	Contact Hours
Experiment 1: Introduction about our lab	1	2
Experiment2: Diode and Zener Diode Characteristics	2	4
Experiment3: Half wave and Full Rectifiers	2	4
Experiment4: Clipping and clamping circuits	1	2
Experiment5: BJT Characteristics	1	2
Experiment6: Common Emitter Amplifier	2	4
Experiment7: JFET Characteristics	1	2
Experiment8: Common Source JFET Amplifier	1	2
Experiment9: Operational Amplifier Inverting and non inverting configurations.	1	2
Experiment10: Integrator and Differentiator.	1	2
Experiment11: Operational Amplifier Application.	1	2
Total	14	28

EVALUATION

Assessment Tool	Due Date	Weight (%)
Mid Exam	According to the university calendar	20
Lab Reports	One week after being taken	40

Final Exam	According to the university calendar	40
ABET's Students Learning Outcomes (Criterion # 3)		
Relationship to program outcomes		
ABET 1-7	Engineering Student Outcomes	
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	
2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	
3	an ability to communicate effectively with a range of audiences.	
4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	
5	√	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6	√	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7		an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.