2309 EIE341 Course Outline

Subject Code	:	EIE341
Subject Title	:	ANALOG CIRCUITS LABORATORY
Level	:	3
Credits	:	3
Teaching Activity	:	Lab 45 hours
Prerequisite	:	MA101/102: Calculus I/II, PH101/002:Physics I/II, EIE240/241

Class Schedule :

Class	Time		Classroom	Date
D1	TUE	12:30-15:20	C406	2023/09/19 - 2023/12/12
D1	_	9:00-11:50	C406	2023/12/07,2023/12/14
D2	THU	12:30-15:20	C406	2023/09/21 - 2023/12/14
D2	_	15:30-18:20	C406	2023/12/05,2023/12/12

Instructor	:	Prof. Xiaodong Li
Contact Number	:	(853)8897 2195
Email Address	:	xdli@must.edu.mo
Office	:	A214
Office hours	:	Monday 09:30-12:00 Wednesday 14:30-17:30 Tuesday 09:30-12:00 Thursday 15:30-17:30

Course Description

This course is a practical part of EIE340, aims to provide students opportunities to design, build, test actual analog circuits including didoes, BJTs, MOSFTEs, Op-Amp by using electric tools, operating electric equipment, to verify the theoretical knowledge learned from EIE340. Also, students will be trained to use circuit-level simulation software and write a technical report professionally.

Textbook(s)

A lab manual written by the instructor will be provided

INTENDED LEARNING OUTCOMES

Upon successful completion of this subject, students will be able to:

1. design and build diode-based rectifier, clipper, clamp circuits
2. design and build BJT-based simple signal processing circuits, like signal amplification etc.
3. design and build MOS-based simple signal processing circuits, like signal amplification etc.
4. design and build Op-Amp based simple signal processing circuits, like mathematical operation, rectification, signal amplification etc.
5. know the working ethics and safety rule in the lab, work with partners cooperatively
6. write technical reports in right format and master professional text-editing techniques using LaTex.

Schedule

Item	Topic*	Hours	Teaching Method
1	Properties of Diodes	3	Lab
2	Diode Circuits	3	Lab
3	Operation Modes of BJT	3	Lab
4	BJT-based Common-Emitter Amplifier	3	Lab
5	BJT-based Emitter Follower	3	Lab
6	Multi-stage BJT Amplifiers	3	Lab
7	Operation Modes of MOSFET	3	Lab
8	MOS-based Common-Source Amplifier	3	Lab
9	MOS-based Common-Drain Amplifier	3	Lab
10	Dependant Sources using Op-Amp	3	Lab
11	Arithmetic Operation with Op-Amp	3	Lab
12	Integrator and Differentiator with Op-Amp	6	Lab
13	Precise rectifier with Op-Amp	6	Lab

* The actual schedule might be adjusted based on the lab manual

ASSESSMENT APPROACH

Assessment Items	Weight (%)

1. In-Class Performances	10
2. Pre-Lab Questions	30
3. Laboratory Reports	60
Total	100

Guideline for Letter Grade:

Marks	Grade	GPA
94-100	A+	4
90-93	A	4
83-89	A-	3.7
75-82	B+	3.3
68-74	B	3.0
63-67	B-	2.7
59-62	C+	2.3
56-58	C	2.0
54-55	C-	1.7
52-53	D+	1.3
50-51	D	1.0
Below 50	F	n/a

Notes:

Students will be assessed on the basis of continuous assessment in terms of class participation, class performance and lab report.

The assessment standard of lab work is given in the lab manual of the course.