



## Lab Course Outline EEE111 L

Analog Electronics (North South University)



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# NORTH SOUTH UNIVERSITY

## DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

### Summer 2024

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### EEE 111/ ETE 111 Lab | Analog Electronics-I Lab Course Outline

**Course Faculty:** Mr. Shaurov Das (SVS)

**Lab Instructor:** Rokeya Siddiqua and  
Md. Mahbub Hassan

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01762984590 (Md. Mahbub Hassan)

**Office Room:** LIB600-C7

**Office Hours:**

| Rokeya Siddiqua                 | Md. Mahbub Hassan              |
|---------------------------------|--------------------------------|
| Saturday (08:00 AM - 11:40 AM)  | Sunday (1:40 PM-5:00 PM)       |
| Tuesday (08:00 AM - 10:50 AM)   | Wednesday (01:40 PM - 5:00 PM) |
| Wednesday (01:40 PM - 04:40 PM) | Thursday (10:50 AM- 1:40PM)    |

***Appointment must be made through email***

**Lab Section:** 15

**Lab Timing:** W 10:50 AM - 01:30 PM

**Lab Room:** SAC504

## Tentative Lab Outline

| Labs   | Dates     | Experiments  |
|--------|-----------|--|
| Lab 1  | 04-Sep-24 | Introductory Class & Grouping  |
| Lab 2  | 11-Sep-24 | I-V Characteristics of diode   |
| Lab 3  | 18-Sep-24 | Zener Diode applications   |
| Lab 4  | 25-Sep-24 | <b>Quiz 1 (Written)</b>  |
| Lab 5  | 02-Oct-24 | Diode Rectifier circuits   |
| Lab 6  | 09-Oct-24 | Clipper and Clamper circuits   |
| Lab 7  | 16-Oct-24 | <b>Midterm Exam (Written)</b>  |
| Lab 8  | 23-Oct-24 | The Input-Output characteristics of CE (common emitter) configuration of BJT |
| Lab 9  | 30-Oct-24 | The BJT Biasing Circuits   |
| Lab 10 | 06-Nov-24 | <b>Quiz 2 (Written)</b>  |
| Lab 11 | 13-Nov-24 | Study of Switching Characteristics   |
| Lab 12 | 20-Nov-24 | Review Class   |
| Lab 13 | 27-Nov-24 | <b>Final Exam (Written + Set-up + Viva + Simulation)</b>                     |
| Lab 14 | 03-Dec-24 | <b>Final Exam (Set-up + Viva + Simulation)</b>                               |
| Lab 15 | 04-Dec-24 | <b>TBA</b>   |

## Marks Distribution (Tentative)

|   |              |
|---|--------------|
| Attendance  | 10 %         |
| Lab Report  | 20 %         |
| Quiz (Best 1 out of 2)                            | 15%          |
| Midterm Exam (Written)                            | 20%          |
| Final Exam (Written + Set-up + Viva + Simulation) | 20%+5%+5%+5% |
| <b>Total</b>                                      | <b>100%</b>  |

**Software:** NI MultiSim

## Lab Report Writing Guidelines:

After completion of a lab experiment, the Lab Report is due in the next immediate lab class. Below is a detailed description of what each Lab Report must contain and the marks of each section in brackets. The total marks for the lab report is **20 marks**.

1. Cover Page **(1)** - All lab reports should have a cover page and the same cover page should be used for all the lab reports.
2. Objective **(1)** – You should briefly write what was the aim of the experiment. In other words, write what you intent to achieve by doing the experiment.
3. Theory **(1)** – In this section of the Lab Report, you will specifically write only the things that you learned from the theory at the beginning of the lab. This section should be concise and to the point. The maximum length should not exceed 2 pages. You can add diagrams and graphs if necessary.
4. List of Equipment **(1)** – A simple list of all the apparatuses and Equipment you used to do the lab experiment.
5. Circuit Diagram **(1)** – Give all the circuit diagrams for the experiment; it must be hand drawn and should be clean and legible.
6. Results/Data/Readings **(3)** – Draw the necessary *data tables* (data obtained in lab) and show *calculations* or the steps needed in this section. Also, answer the *questions* asked in the report part of the manual.
7. Discussion **(3)**: Explain what you learned by performing the experiments in this section. It can also include the problems you faced while conducting the experiment.
8. Simulations **(3)** - The necessary simulation of the circuits that were done in the lab. The simulation must be done in Multisim.
9. Graphs **(5)** : There are few graphs that need to be done according to each manual. The graph must be hand drawn in a graph paper with proper labels and scale in both axis. Try to make use of at least 70% of the graph instead of using a small section of the graph paper with a small vertical and horizontal scale.
10. Attachment **(1)** – Finally, you must attach the photocopy of the data sheet signed by the instructor in the lab.

### RULES:

- If you are inattentive and miss your attendance in the process, you will be marked as absent.
- If any lab is missed, one will get 0% in Attendance and Lab performance.
- Use of mobile phones during the offline class is strictly prohibited.
- Lab Report copied from others will be marked negatively.
- You must bring printed lab manuals to the class.
- No Late Submissions will be accepted
- All information in the cover page must be typed; handwritten cover pages will be rejected.
- All submissions are due at the beginning of the class.
- Ensure that your group prints all necessary materials well ahead of the class.
- Grading will be done according to NSU Grading Policy.