

# **ENG101 Analogue Electronics Design**

**Level:** 1

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY SEMESTER

## **Synopsis:**

Semiconductor devices and integrated circuits are the backbone of modern technology. This course provides students with a thorough understanding of analogue electronics principles, components and systems, which form the foundation of this technology. ENG101 teaches the principles of electronics components that are the basic building blocks, and also the application of appropriate mathematical methods of modeling of components and circuits. It is an integral part of undergraduate curriculum for students majoring in electrical or computer engineering and shall deliver the essential concepts through both the theoretical and practical know how as needed in this field of engineering.

## **Topics:**

- Review of Basic Circuits (KVL,KCL,etc)
- Introduction to Electronics and Design
- Diodes and Applications of Diode Circuits
- Amplifiers and amplifying devices
- Introduction to Op-Amp
- Characteristics of Practical Op-Amps
- Frequency Response of Amplifiers
- Active Filters
- Feedback Amplifiers
- Oscillators

## **Textbooks:**

thomas L Floyd: Electronic Devices (eTextbook) 10th edition Pearson  
ISBN-13: 9781292223018

**Learning Outcome:**

- State the operating characteristics of electronic circuits and devices.
- Recall the operations of common electronic circuits.
- Determine circuit and component parameters for electronic circuits.
- Explain analogue electronic circuits using equivalent circuit models.
- Sketch the signals and plots corresponding to electronic circuits.
- Interpret the electronic circuits and generated signal waveforms.
- Calculate the performance of the given circuit.
- Design electronic circuit for different configurations using analogue components.

**Assessment Strategies (Evening Class):**

<b>Components</b>	<b>Description</b>	<b>Weightage Allocation (%)</b>
Overall Continuous Assessment	CLASS TEST 1	6
	CLASS TEST 2	6
	LAB TEST 1	8
	GROUP BASED ASSIGNMENT 1	10
Overall Examinable Components	Written Exam	70
<b>Total</b>		<b>100</b>