

# LAB #12

## Introduction to Simulink in MATLAB



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### **CSE-301L Signals & Systems Lab**

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“On my honor, as a student of the University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work”

Submitted to:

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(6 June 2023)

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# OBJECTIVES OF THE LAB

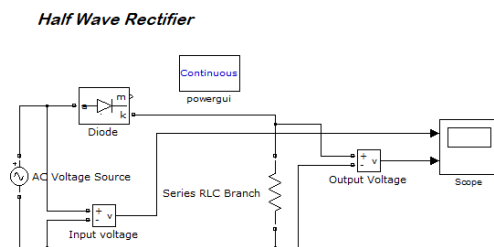
## What is Simulink?

- Simulink is an extension to MATLAB. In Simulink, you build block diagram models of dynamic systems instead of text code. It is easy to model complex nonlinear systems. Simulink can model both continuous and discrete-time components.

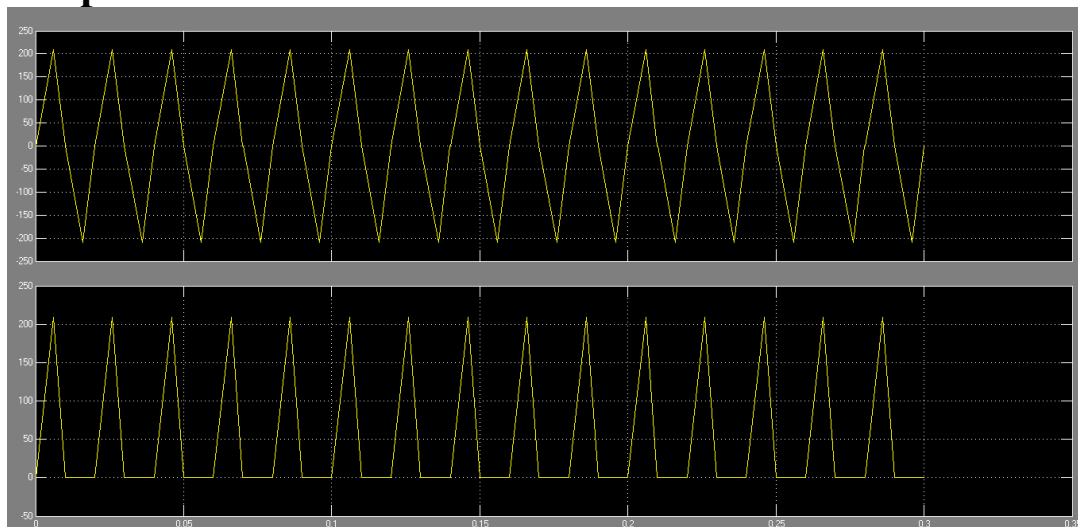
## -----TASK 1 -----

- Design any signals and systems example in Simulink.
- Let I take a half wave rectifier.
- **HALF WAVE RECTIFIER:**

## Circuit Diagram:



## Graph:



- Code:**

[illegible]

The top plot, titled "Input Sinusoidal", shows a sine wave with an amplitude of 1 and a period of 2. The x-axis ranges from -2 to 2, and the y-axis ranges from -1 to 1. The bottom plot, titled "Half Wave Rectifier", shows the output of the rectifier circuit. The x-axis ranges from -2 to 2, and the y-axis ranges from 0 to 1. The output is zero for the negative half-cycles of the input signal and follows the positive half-cycles.