

**Simulation for Engineering with Circuit Building of Real-time Applications
with examples and Practicals
Interdisciplinary Program
Powered by Virtual Innovation Lab
(In conformance with UN SDG)**

Eligibility: EEE, CSE, ME, CE BTech (I-IV) Years. Instructor Led Training.

Objective: The world is embarking on the 4th Industrial revolution. We need solutions and platforms for teachers and students to improve teaching, learning and research competence and develop 21st century skills like problem solving, innovation, collaboration, leadership and practical skills.

Outcome: To help students understand interfacing of different modules, controllers, sensors in simulation to get a virtual output.

S.No.	Course Outline
1	Introduction to the course and software
2	Explaining the way to pick up the right Components from the library
3	Explaining the Components Interface and Simulating your First Circuit
4	Components dealing like labeling, editing, replacing, wiring and adding
5	Uses of different meters like Voltmeter, Ammeter, etc.
6	Deal with Digital signal generators and oscilloscope in Simulation
7	Simulation and designing the Linear DC Circuit 1
8	Simulation and designing the Linear DC Circuit 2
9	Simulation and designing the Linear DC Circuit 3
10	Simulation and designing the Linear DC Circuit 4
11	Simulation and designing the microcontroller circuit-1 using 8051
12	Simulation and designing the microcontroller circuit-1 using PIC
13	Simulation and designing the microcontroller circuit-1 using Arduino
14	Simulation and designing the microcontroller circuit-2 using 8051
15	Simulation and designing the microcontroller circuit-2 using PIC
16	Simulation and designing the microcontroller circuit-2 using Arduino
17	Simulation and designing the microcontroller circuit-3 using 8051 with ADC
18	Simulation and designing the microcontroller circuit-3 using PIC with ADC
19	Simulation and designing the microcontroller circuit-3 using Arduino with ADC
20	Summary