



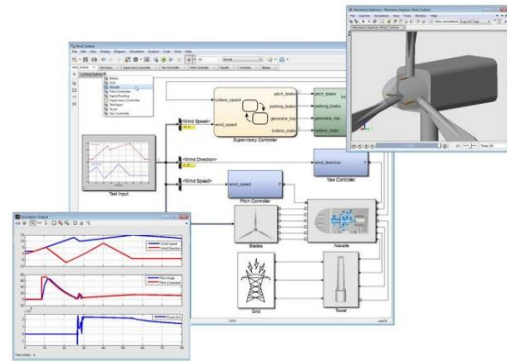
E2MATRIX

Training and Research Institute

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MATLAB SIMULINK COURSE STRUCTURE

Simulink, developed by Math Works, is a graphical programming environment for modelling, simulating and analysing multidomain dynamic systems. Its primary interface is a graphical block diagramming tool and a customizable set of block libraries. It offers tight integration with the rest of the MATLAB environment and can either drive MATLAB or be scripted from it. Simulink is widely used in automatic control and digital signal processing for multi domain simulation and Model-Based Design.



Module 1

1. Introduction to MATLAB
2. Matrix Operations
3. MATLAB Programming
4. Introduction to Simulink
5. Introduction to Simulink Library
6. Introduction to SimScape

7. Introduction to SimPowerSystems
8. Creating Simulink Model
9. Running Simulink Model
10. Observing Output
11. Using Help Option
12. Simple Circuits Simulation (clip, clamp, uncontrolled rectifiers, Network Theorems)

Module 2

1. Simulation of Digital Logic Circuits (basic, flip flops, counters, application examples)
2. PID controller
3. Circuit Design, Simulation and Analysis
4. Controlled Rectifiers
5. Choppers
6. Generation of SPWM
7. Inverters (PWM & SPWM)
8. AC-AC Converters
9. Sample Project (Application Oriented)

Module 3

1. Introduction to Power System Network
2. Introduction to Load Flow Analysis
3. Creating Power System Network Model
4. Load Flow Analysis for IEEE 6-Bus System
5. Introduction to Faults and Power System

6. Stability Analysis
7. MATLAB Programming
8. Fault Analysis
9. Stability Analysis
10. Fuzzy applications to Power system

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