

MATLAB-Simulink

Duration : 1 weeks [5 days a week, 2 hours a day, total 20 hours]

- ✓ Use of commonly used blocks i.e. add, display, sine wave, scope blocks, sinks, Sources & Configuration Parameters.
- ✓ Constants, Logical Operator & relational operator blocks
Ground, Terminator, IN-Port & OUT-Port Blocks.
- ✓ If-else loop
- ✓ maths operations
- ✓ logical operations
- ✓ random functions
- ✓ user defined function

Simulink Mechanical:

1. Modeling and Control of Mechanical Systems in Simulink of Matlab
2. Multibody simulation using Simscape Multibody features of Simulink.
3. Solved Examples:
 - a. Example 1: Writing Matlab Functions: bouncing ball model
 - b. Example 2: Writing Matlab Functions: The inverted pendulum
 - c. Example 3: Writing Matlab Functions: Damped spring system

Simulink Electrical

Basic Application

- Basic waveforms
- Ohms law
- Kirchoff's Laws
- Independent & Dependent DC Sources
- Series & Parallel Circuits
- R-L Series Circuit
- R-C Series Circuit
- Series-Parallel circuit
- Time & State response
- Half wave & Full wave rectifier

- 1st order differential equation
- Filter circuits
 - Laplace & Inverse Laplace transform
 - Maximum full transfer theorem
 - AC Signal waveform calculations