

WORKSHOP ON MATLAB AGENDA

- • Introduction to MATLAB
- • Introduction to control law - Fundamental
- • Exercises- plant model design in Simulink- Algorithms - Real-Time Applications

ABOUT WORKSHOP

Many of the real-world problems Presentation (1 Hour) Hands on session (2 Hours)

- ✓ STARTING WITH MATLAB
- ✓ MATLAB ENVIRONMENT
- ✓ STARTING MATLAB, MATLAB WINDOWS
- ✓ WORKING IN THE COMMAND WINDOW
- ✓ ARITHMETIC OPERATIONS WITH SCALARS
- ✓ DISPLAY FORMATS
- ✓ VECTORS AND MATRICES
- ✓ ELEMENTARY MATH BUILT-IN FUNCTIONS
- ✓ PLOTTING

PROGRAMMING IN MATLAB

- ✓ SCRIPT FILES
- ✓ Creating and Saving a Script File
- ✓ Running (Executing) a Script File
- ✓ Current Folder
- ✓ Creating Arrays
- ✓ CREATING A ONE-DIMENSIONAL ARRAY (VECTOR)
- ✓ CREATING A TWO-DIMENSIONAL ARRAY (MATRIX)
- ✓ ADDITION AND SUBTRACTION
- ✓ ARRAY MULTIPLICATION
- ✓ ELEMENT-BY-ELEMENT OPERATIONS
- ✓ USING ARRAYS IN MATLAB BUILT-IN MATH FUNCTIONS
- ✓ BUILT-IN FUNCTIONS FOR ANALYZING ARRAYS
- ✓ GENERATION OF RANDOM NUMBERS
- ✓ EXAMPLES OF MATLAB APPLICATIONS
- ✓ Using Script Files and Managing Data Programming in MATLAB
- ✓ RELATIONAL AND LOGICAL OPERATORS
- ✓ CONDITIONAL STATEMENTS
- ✓ LOOPS

USER-DEFINED FUNCTIONS AND FUNCTION FILES

- ✓ CREATING A FUNCTION FILE
- ✓ STRUCTURE OF A FUNCTION FILE
- ✓ Function Definition Line , Input and Output Arguments
- ✓ COMPARISON BETWEEN SCRIPT FILES AND FUNCTION FILES
- ✓ SUBFUNCTIONS & NESTED FUNCTIONS

Control law design (2 hours), Real time project designing demo (1 hour)