

Learning Outcomes:

The educational objectives of the course are to educate students to attain the following:

- To aware the students about MATLAB environment.
- Students will understand the basics of MATLAB and its data class.
- The course contents will enable the students to learn basic MATLAB programming for engineering application.
- MATLAB Simulink for simulation, analysis and design of the system.

SYLLABUS

Unit No.	Topics
	Introduction to the overview and importance of the course.
1	INTRODUCTION TO MATLAB: About MATLAB, MATLAB System, Starting and Quitting MATLAB
2	MATRICES AND ARRAYS: Entering Matrices sum and transpose, subscripts, colon Operator, magic Function.
3	WORKING WITH MATRICES: Generating Matrices, The load Function, M-Files, Concatenation, Deleting Rows and Columns, Linear Algebra, Arrays Multivariate Data, Scalar Expansion, Logical Subscripting, find Function.
4	EXPRESSIONS: Variables Numbers, Operators Functions, Expressions.
5	COMMAND WINDOW: The format Function, Suppressing Output, Entering Long Statements, Command Line Editing.
6	GRAPHICS: Plotting Process, Editing Process, Preparing Graphs, Basic Plotting Functions, Mesh & Surface Plot, and Image Reading & Writing, Printing graphics.
7	FLOW CONTROL: If, else, and else if, switch and case, for, while, continue, break try - catch, return.
8	OTHER DATA STRUCTURE: Multidimensional Arrays, Cell Arrays, Characters and Text, Structures
9	SCRIPTS & FUNCTIONS: Scripts, Functions, Global Variables, Passing String Arguments to Functions, eval Function, Function Handles, Vectorization, Pre allocation.
10	SIMULINK:

Term Work and Practical shall be based on the above syllabus.

Reference Books:

1. MATLAB & Its Applications in Engineering By: Raj Kumar Bansal, Ashok Kumar Goel, Manoj Kumar Sharma
2. A Guide to MATLAB: For Beginners & Experienced Users By: Kevin R. Coombes, John E. Osborn, Garrett J. Stuck