

MATLAB Fundamentals for Automotive Applications

OEM: MathWorks • Duration: 3 Days (24 hrs) • Code: MW-MATLAB-FUNDAMENTALS-FOR-AUTOMOTIVE-AP

COURSE MODULES & TOPICS

Day 1 of 3

Working with the MATLAB User Interface

- Reading data from files
- Saving and loading variables
- Plotting data
- Customizing plots
- Exporting graphics for use in other applications

Variables, Commands and Scripts

- Entering commands
- Creating numeric and character variables
- Making and annotating plots
- Getting help
- Creating and running live scripts

Analysis and Visualization with Vectors

- Performing calculations with vectors
- Accessing and modifying values in vectors
- Formatting and sharing live scripts

Day 2 of 3

Analysis and Visualization with Matrices

- Creating and manipulating matrices
- Performing calculations with matrices
- Calculating statistics with matrix data
- Visualizing matrix data

Tables of Data

- Storing data as a table
- Operating on tables

- Extracting data from tables
- Modifying tables

Conditional Data Selection

- Logical operations and variables
- Finding and counting
- Logical indexing

Organizing Data

- Combining tables of data
- Table metadata
- Dates and durations
- Discrete categories

Day 3 of 3

Analyzing Data

- Importing from spreadsheets and delimited text files
- Dealing with missing data
- Plotting functions
- Customizing plots

Increasing Automation with Programming Constructs

- Programming constructs
- User interaction
- Decision branching
- Loops

Increasing Automation with Functions

- Creating functions
- Calling functions
- Setting the MATLAB path
- Debugging
- Using breakpoints
- Creating and using structures