Introduction to MATLAB

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Course Details

Description

Introduction to MATLAB introduces students to basic MATLAB programming concepts.

These materials are a subset of course materials from Engineering Models that is taught with the University of Cincinnati as a dual enrollment course to hundreds of high school students.

Course Contents

Topic 1: Desktop, Variables, and Data Types

- Lectures:
  - Introduction to MATLAB
  - Creating Variables
  - Some Useful MATLAB Functions
  - Data Types

Topic 2: Script Files

- Lectures: Script Files

Topic 3: Plotting

- Video Lectures
Introduction to Arrays
  - Graphing
  - Exercises: Graphing Functions Using MATLAB

**Topic 4:** Good Programming Practices

- Video Lectures
  - Good Programming Practices: Planning Your Code
  - Good Programming Practices: Creating Your Code

**Topic 5:** Input and Output Statements

- Video Lectures
  - Input Statements
  - Output Statements
  - Exercises: Input/Output Statements

**Topic 6:** Conditional Statements

- Video Lectures
  - Conditional Statements: Logical Operators
  - Conditional Statements: if, else, and elseif
  - Conditional Structures: Switch
  - Exercises:
    - Conditional Statements 1
    - Conditional Statements 2

**Topic 7:** Loops

- Video Lectures
  - Repetition Structure: Introduction to Loops
  - Repetition Structure: For Loops
  - Repetition Structure: While Loops
  - Exercises: Loops

**Topic 8:** Nested Loops

- Lecture: Nested Loops Breaks
  - Video Lecture: Repetition Structures: Nested Loops and the Break Statement

**Topic 9:** Arrays
Topic 10: **Array Functions**

- Video Lecture: Some Useful Functions for Arrays
- Exercises: Array Functions

**Textbooks**


† Supplemental Material

**Resources**

**Cody**: A program developed by MathWorks that allows students to progressively develop MATLAB® programming skills and earn badges in the process

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