Introduction to MATLAB for Engineers

Course Description

**Pre-requisites:**

This course assumes no prior programming experience.  A working knowledge of matrix algebra is assumed.

**Process:**

Practical Workshop

**Course Description:**

This is a 2-day course which aims to provide an introduction to MATLAB with particular emphasis on the differences between MATLAB and other programming languages, thus enabling participants to write efficient MATLAB code.  The course will also cover the use of MATLAB’s built in features such as plotting, debugging tools and publishing.

The course includes the following topics:

1) Introduction to the MATLAB workspace

2) Variables, vectors and matrices

3) MATLAB scripts

4) Input/output

5) Relational and logical operators and their use on matrices

6) Conditional and loop statements

7) Debugging techniques. Using the MATLAB debugger

8) Publishing code and data using code cells

9) Importing data and use of tables

10) Plotting

11) Functions

**Aims:**

The aim of the course is to provide an introduction to programming in MATLAB so that the attendee is able to write simple MATLAB programs. It is intended that the course will provide an overview of basic functionality and will enable students to be confident in exploring more advanced MATLAB tools for themselves.

**Objectives:**

By the end of the course you will have a basic understanding of the principles of programming using MATLAB.  You will be able to

1)    Write and debug MATLAB scripts, including the use of functions

2)    Use vectors and matrices and use appropriate constructs for producing efficient code

3)    Import data and use plot tools to display that data

4)    Use the publishing feature to present code and results

5) Use the help facilities and resources within MATLAB to find tools to suit specific research requirements