

Advanced Risk Management (FIN 30270)

Tutorial 1: Introduction to Matlab

Required Preparation:

- The only preparation for Tutorial 1 is to for ***all students to ensure that they have Matlab installed on their laptop*** or at least have access available via UCD Connect

Necessary Material:

- Matlab and Simulink Student Suite; or
 - Access to Matlab via the Application jukebox (Software for You) link on the UCD Connect homepage <https://aj-hub.ucd.ie/>
- Matlab script – “Tutorial_1_Matlab_Review”
- Data Excel file for stocks – “Data”

Objectives:

- This tutorial will outline the basic concepts of Matlab which will be essential for the completion of the continuous assessment elements of the course
- The tutor will walk through the Matlab setup process and help familiarise students with how the program works
- Students will gain an understanding of the fundamentals of common operations used in Matlab

Tutorial Outline:

- Installing and setting up Matlab:
 - Defining folder paths to read files
 - Describing the Matlab user interface and the layout options for ‘command window’, ‘workspace’ etc.
 - Introducing the Editor
- Useful links to websites and online tutorials
- Presenting the key workings of Matlab i.e. vectors and matrices
- Demonstrating how to create variables
- Basic matrix manipulation
- Loading data from Excel file in to Matlab
- Performing fundamental operations on this data:
 - Mean
 - Standard Deviation
 - Variance/Covariance matrix
- Simple plot of data