

Appendix A -- MATLAB

1 Overview

MATLAB is a commercial software package for data analysis, graphics and programming (<http://www.mathworks.com/>). MATLAB has an assortment of built-in functions convenient for time series analysis. The graphics environment is conducive to illustrating time series techniques. MATLAB is widely used as a main technical computing environment by several notable research institutions. Many user-written functions and toolboxes applicable to time series analysis are available free over the web. A full description of MATLAB and its capabilities can be found at the URL (<http://www.mathworks.com/>).

The course assignments make use of built-in MATLAB functions as well as functions and scripts written by the instructor. To do the course assignments you must have access to MATLAB and several of its toolboxes. Students taking the course must make sure their institution has an accessible installation of MATLAB and the required toolboxes. Or a student could purchase the Student Version of Matlab and the required toolboxes. More information on the Student Version of MATLAB is available at

http://www.mathworks.com/academia/student_version/

Scripts and functions for the Spring 2007 class were tested with MATLAB version 7.3.0.267 (R2006b). Students should use a version of MATLAB at least as recent as MATLAB 7.1 (Release 14) with Service Pack 3, which is the latest Student MATLAB available as of December 2006. The required toolboxes are:

- Statistics
- System identification
- Signal processing
- Spline

2 Make a working directory for the class files

Put all your data, class scripts and user-written functions in a dedicated directory. For simplicity, name this directory “c:\geos585a”. When you start MATLAB, set “c:\geos585a” as your working directory. Download and unzip the class scripts, functions and data to that same directory.

3 Using MATLAB

Although no MATLAB programming is required for this course, you will need to run scripts and functions and be able to manipulate graphics windows. MATLAB has an excellent help system. From the top menu in MATLAB, click on

- Help
- Matlab Help
- Getting Started

for a basic introduction.