

Appendix B -- Submitting Assignments

1 Assignments should be turned in as word processor files with figures and captions.

To accommodate correspondence students as well as resident students, each assignment should be submitted as a zipped MS word file attached to an email message. The filename should be formed from your last name and the assignment number. For example, if your last name is Smith, assignment 2 would be emailed as “smith2.zip”, which is a zip file containing “smith2.doc”. Graded assignments are returned to you as pdf files with the same prefix (e.g., “smith2.pdf”)

In each assignment, you run a MATLAB script on your data. The script produces one or more figure windows with graphics or text results. As part of the assignment, you are asked to interpret the information in the figure windows. The procedure for submitting your answers is to get the figure into your word processor, write your answer in a caption to the figure, and submit your whole assignment as the zipped word processor document composed of figures with captions. No additional text should be in the document. For the first assignment you will zip data files as well as an MS word document, but for other assignments you will simply send a zipped MS word document.

2 How do you get the MATLAB figure into your word processor document?

Say you are using MS Word, and the MATLAB script has produced a figure in Figure Window No. 1.

1. Open an MS word document, preferably full-page view
2. Use the “text box” tool in MS Word to put an empty text box where you want the figure to be
3. In MATLAB, click on Figure Window 1 to make it the current figure window
4. Resize the figure as desired by tugging on the corners
5. Annotate the plot if you want by using the tool menu at top of the figure. There you may add arrows and text, for example, to point out some feature of interest. Be sure to use the “pin to axes” tool to pin annotations to the axes before you finish with the figure (otherwise add arrows, text, etc., may shift relative to the axes if you resize the figure later)
6. Click Edit/CopyFigure on the MATLAB figure window menu
7. Click in the text box in your MS Word document, and click Edit/Paste or the paste icon in MS Word to put the figure into the text box

3 How do you put your answers into a caption?

Continue with the above example. Suppose now you have the figure in a text box in MS Word.

8. Click on the lower handle of the text box and drag it down to open up space for the caption
9. Right click on the figure in the text box to bring up a menu that includes a “caption” option
10. Click “caption” and enter the desired text

4 How do you extract data produced by the scripts?

What if you run a script to illustrate filtering and you actually want to save and use the filtered series outside MATLAB or in some other MATLAB script? Two ways to do this are 1) using the Workspace window from the desktop and 2) writing some code in the script to export and save data in the desired format. I generally have not built in code for saving specific types of information. In revising the scripts, however, I am building in message boxes to indicate to the user which variables hold particular information. The user can then get the data by whatever method. See “Getting Started with MATLAB” for information on exporting data.

5 How do you zoom and pan on time series

Zooming and panning are convenient for looking at portions of time series. The “hand” signal on the top menu lets you pan, or shift the series along the time axis. You can readily zoom in on any of the figure windows created by the scripts. This can be done with the zoom tool from the figure window menu. Right clicking with zoom on will let you change the zoom options. The horizontal zoom is most useful for looking at portions of time series while preserving the view of the whole y-axis range. You can also zoom on the current figure window by issuing the following command from the command window:

```
>zoom xon ..... for horizontal zoom  
>zoom on ..... for zoom on both
```

Putting a grid on the figure is also useful for some purposes:

```
>grid on  
>grid off
```

Zoom and grid are toggle commands, so that if the grid is already on and you give the “grid” command, the grid turns off. Likewise for zoom. You will notice that some figures made by the scripts already have grid and/or zoom turned on.