

## File Management

This document is designed to provide information on good file management practices that will help you with programs for Math 337 in Maple and MatLab. Math 337: Elementary Differential Equations is a first course in differential equations, and we use a modern approach to the subject, which includes geometric interpretation of the material. To visualize and understand solutions of differential equations through this modern approach requires some ability to produce graphic output. Furthermore, this class will use a number of real world problems for which computer applications are needed to connect differential equation models to actual data. This is **not** a programming class, so most of the MatLab and Maple programs are provided and downloadable; however, you will need to understand what the different code lines mean in order to modify them for your specific problems. For students who are challenged with computer programs, it is recommended that you either work in groups or attend office hours to obtain additional assistance. Both Maple and MatLab have extensive tutorials, including ones for the novice. Additional links are found on the website Lecture page (<https://jmahaffy.sdsu.edu/courses/f21/math337/Lectures.html>). Both programs are extensive and worth learning for other Math courses and to put on your resume at graduation.

Below we illustrate how best to create a good graph in MatLab.

- Create a new folder with a good name, like **math 337**.
- Save the graph\_plot.m file into this folder, right click on the link and choose “save link as.” Then click this folder to download the file into it.
- Create a copy of the original file and rename it for your working file.
- Open up this new file by double clicking on it, and it should open in Matlab in the folder you have created. If Matlab asks, then change folder.
- This file is called a MatLab script, and it opens in the editor window of MatLab. You run this script by clicking on the green arrow at the top labeled “RUN.” (It can be easier to work in the editor by undocking it from the main MatLab window.)
- You should learn what the different MatLab code lines mean, so you can modify them for different examples, retaining the key formatting commands for labeling.
- At the bottom of the script you will notice the command for your graph `-djpeg graph1.jpg`, which saves your graph in your working folder, so change this title as appropriate (example HW1q1.jpg).
- This jpeg file can be easily opened and copied into a Word document for your assignment that you load into Gradescope.
- For students wanting to use LaTeX, then it is recommended that you use the command `-depssc graph1.jpg`, which creates an eps file, easily embedded into LaTeX documents.

Now you have named files, in a named folder. You should be able to find them and use them for the rest of the course. If you want to be more organized, after you have completed the first homework, make a folder inside math337, and move all your files from this submission into this sub-folder. They are still available to use, but you won't accidentally overwrite them. There are a lot of similar files in this course, so it's a good idea to keep them organized.

If you download a Maple file, then double clicking on it will open that file directly into Maple. Again you need to learn what the different code lines mean, but you will be in Maple and can directly access the commands you want to modify.