

General Information For Computer Assignments

Objectives: The computer assignments are designed to introduce you to some of the capabilities of computers in solving mathematical problems which would be difficult or impossible by hand, while minimizing the amount of specific computer syntax you must know and time you must spend. And to have fun!

Overview: Each computer assignment consists of working through a computer worksheet (or **notebook** as they are called) with the program Mathematica. Each notebook consists of a few examples followed by some homework problems. The homework problems will simply require you to redo the given examples with some new functions. And then possibly to answer a few questions about the results you get.

Details: You are encouraged to do the computer assignments in groups of **two** or **three** at most. (You are welcome to do them on your own if you wish.) This will give you an opportunity to discuss the problems with others and make them more enjoyable. **Note.** If working in a group, please be considerate of those around you in the computer lab or make use of a group lab such as LaFortune. If you work in a group, you only need to turn in **one** assignment for the entire group. Indeed, “What should we turn in?”, you ask. Typically you should turn in the computer output from the homework problems (**not** the original examples) along with written answers to any extra questions which were asked. This will be specified at the bottom of each notebook.

How to get a notebook running: Go to your favorite computer lab on campus and pick your favorite computer. Once on a computer, hop on Netscape and go to http://www.nd.edu/~dyer/math_108/general.html or http://www.nd.edu/~vnitica/math_108/general.html Find the computer assignments, click on the appropriate one, and download it to your computer: the desktop or your afs space or wherever you wish. Indeed, you may want to download them all at once.

Next, **quit** Netscape and start the program Mathematica: on a mac or pc, look for it under applications; on a unix machine, simply type `mathematica` in a command window. Note: If you have trouble, any computer lab consultant should know how to get Mathematica running. Once it’s running, simply open the desired file (via the file menu on the menu bar) and you’re on your way.

Alternately, on most computers you can copy the file from netscape and past it into an empty Mathematica window. A question box may pop up, if so, answer “yes”.

IF neither of these methods works, there’s probably a problem with the computer. For example on the Macs, Mathematica uses a lot of memory, if you get an error, make sure all other programs are shut down and try again. Don’t waste your time - if it’s not working after a couple tries, go to a different computer.

Doing the worksheets: The worksheets should be self-explanatory and fairly straightforward. And working in groups should help you figure out how to do things. However, you may run into snags now and again.

Getting Help: You can ask your instructor for help, but that might not be very expedient. There will be someone available four hours a week in the **DeBartolo Computer Lab:**

- Sundays, 8-10 p.m.

Her name is Rebecca and she will be there solely to help Math 108 students. You may want to plan to go there and work on the assignment. Or try it on your own and then go there for help if you need it.

For computer specific problems, the lab consultant on duty should be able to help. But, they may not know much about the program Mathematica. For questions about Mathematica, try using the self-contained help program or read the Introduction to Mathematica notebook which you can also download from Prof. Dyer’s Web page. Indeed, it might be helpful to at least skim through that before doing the first assignment.

Final Thoughts: With today’s technology, we can do lots of things that weren’t possible in the past. Of course, we all know that computers can be “finicky” and at times downright “annoying”. So, plan ahead, get in a group, and try to have some fun with these assignments. Once you’ve figured out a few things, you may even want to play around with Mathematica some more on your own.