

## Getting started with Mathematica for Multivariable Calculus (CSE Labs)

This document will provide you with the basic information to aid you in logging into the computer, starting Mathematica on the computer, and downloading the first lab assignment.

### LOGGING ONTO THE COMPUTER

As your lab meets in an CSE computer lab, you must follow all rules and regulations of the CSE Labs.

**Activating Your Account.** If you haven't already activated your CSE computer account, you can do so by logging into one of the computers with the username **register** and the password **register** and following the directions. Some class time will be lost, as you must wait 10–15 minutes before you can log into a computer. (At the end of each semester, your CSE account is deleted so it must be re-initialized each semester.)

### OBTAINING NOTEBOOK FILES FOR MATHEMATICA

Your first laboratory assignment will be to work through Lab 1A, which contains a brief introduction to Mathematica. You can obtain the Mathematica files (called “notebooks”) you will need for this lab from the web. Start the Firefox web browser by using the Applications menu in the upper left hand corner of your screen (look under Internet). Next, type in the URL **http://moodle2.umn.edu** and log in with your Internet ID. Once logged in, you will be able to see the links to the course website.

Find the link for Lab 1A (on the main course page, in the segment for the first week of classes). Click the link, which will open a document full of text. Select **Save Page As** from the **File** menu. Then, click the **Save** button to save the file to your home directory.

### GETTING IN AND OUT OF MATHEMATICA

**Running Mathematica.** Mathematica is not in the menu. To run Mathematica, you must open a Terminal window, which is in the Applications menu, under Accessories. In a terminal window, you can type **mathematica** and then press enter to start Mathematica. This will open a Mathematica notebook in which you can enter Mathematica commands, receive Mathematica output responses, type in text, etc. Later, to exit Mathematica, you can select **Quit** from the **File** menu (closing the Mathematica window doesn't work).

You can use Mathematica in any other CSE computer lab; see their website ([www.cselabs.umn.edu](http://www.cselabs.umn.edu)) for a list of CSE labs. Your course instructor is from the math department, and therefore in most cases will not be able to answer questions about CSE Labs.

### USING MATHEMATICA NOTEBOOKS

**Opening a Mathematica Notebook.** Open a notebook in Mathematica by choosing **Open** under the **File** menu. Click on **Lab\_1A.nb** in the list and click OK. If you choose **New** from the **File** menu you can open another notebook where you can type commands while reading the lab. The most important thing that you should remember is that Mathematica is **VERY SYNTAX SENSITIVE**. If you get an error, most likely you have made a mistake in your syntax. Check capitals and parentheses very carefully.

**Saving a Mathematica Notebook.** When it comes time to end your Mathematica session, you may want to save your notebook with any changes that you have made. Since saving Graphics output takes up a tremendous amount of disk space you should **NOT** save notebooks which have graphics output. You only have a certain amount of disk space for your account; if you use too much, then you will not be able to login. We can help you fix this, but you may lose some of your data.

To save a notebook without output you must first select **Delete All Output** from the **Kernel** menu and then you can save the notebook by using the **File** menu and selecting **Save As**. The next time that you open your notebook, you can easily restore the output by selecting **Evaluation** from the **Kernel** menu and selecting **Evaluate Notebook**.