24-623/12-623 Computer Logistics

A significant portion of your evaluation in this course will be based on your ability to develop computer programs, run them, and analyze the results.

You must write your own code. Using a software package is one thing. Developing your own code is another and the experience in this course will give you significant advantages in the future. When you submit your homework, you will sometimes be required to submit your code.

You are free to write programs in any language you like. Options include C++ and FORTRAN. I have written code in both C++ and FORTRAN, and will be best able to assist people using those languages. In-class demonstrations will be done in C++ (I use a C++ compiler, but write code more typical of C). Code provided for some homework assignments will be in C++. **Using C++ is the best option.**

For Windows users, Dev-C++ is a good option for editing and compiling (http://www.bloodshed.net/dev/). There may also be resources available on the CMU or mechanical engineering department clusters.

For Mac users, the built-in terminal program is good for compiling. I use Sublime Text (https://www.sublimetext.com/) for editing.

If you don't know what language to use, choose C++. I will be able to best help you with that. There is lots of information about C++ on the web. A Google search on "C++ tutorial" yielded lots of hits, including:

- http://www.cplusplus.com/doc/tutorial/
- http://www.cprogramming.com/tutorial.html
- http://cplus.about.com/od/beginnerctutorial/l/blcplustut.htm

Work through these tutorials to get a grasp of the general concepts of programming. Your code will not be overly complicated. You will need to use *if* statements, *for* and *while* loops, and input and output data. Topics such as pointers and object oriented programming are beyond what you will need.

There will be a coding workshop in the Wednesday lecture of the first week of class.

COMMENT YOUR CODE AS YOU WORK. Leaving yourself reminders about why something was done in a certain way will save you lots of time when you come back to your code, even after a week of not looking at it. Most people don't comment well. Start doing it from the beginning to make it a habit.

You may want to use math software packages at different times in the semester. You can get Matlab and Mathematica free from CMU by going to
http://www.cmu.edu/computing/software/all/index.html and following the links under software. For analysis, a spreadsheet/graphing program (e.g., Excel) may also be useful.