

PSYC 6273

Computer programming for experimental psychology Winter 2011

Instructor:	Richard Murray	rfm@yorku.ca CSEB 0003J, 416-736-2100 x 23025
Lectures:	Tuesdays, 11:30 am - 2:30 pm, ACW 204	
Website:	www.yorku.ca/rfm/psyc6273	
Evaluation:	three problem sets (50%), term project (50%)	

Overview. This graduate course covers computer programming methods that are useful in experimental psychology. The course assumes no previous programming experience, and brings students to the point where they are able to write useful programs to advance their own research. Classes are held in a computer laboratory, and each week's class consists of a lecture followed by programming practice on assigned problems. Topics include the MATLAB programming language, data files, curve fitting, Monte Carlo simulations, statistical tests, journal-quality data plots, 2D and 3D graphics (OpenGL), and interfacing to external devices.

Guidelines on plagiarism. An important part of learning how to program is discussing problems with other people, and reading other peoples' code. Sometimes this blurs the lines on what constitutes plagiarism. Here are some guidelines. You can discuss assigned problems with others as much as you want, and read each others' code, but in the end you must do your own work. If you cut and paste someone else's code, you are plagiarizing. If you find yourself looking at someone else's code while writing your own, you are probably plagiarizing. If you memorize someone else's code and type it in without understanding how it works, you are plagiarizing. You should think of computer programming as problem solving, and it is important that you provide your own solutions to assigned problems. That said, discussions are an important part of solving difficult problems, and it is inevitable and acceptable that different peoples' solutions will end up being similar in some ways.

LECTURE SCHEDULE

1	4-Jan	introduction to MATLAB
2	11-Jan	data types and files
3	18-Jan	matrix operations <i>term project proposal due</i>
4	25-Jan	2D and 3D graphics <i>problem set 1 due</i>
5	1-Feb	curve fitting
6	8-Feb	psychophysics toolbox
7	15-Feb	2D and 3D graphics, continued <i>problem set 2 due</i>
	22-Feb	<i>no class (reading week)</i>
8	1-Mar	statistics
9	8-Mar	monitor calibration
10	15-Mar	serial interfaces, MEX files
11	22-Mar	bootstrapping <i>problem set 3 due</i>
12	29-Mar	<i>term project due</i>
