Faculty of Health
Department of Psychology
PSYC 6273 3.0 A: Computer Programming for Experimental Psychology
Tuesdays/11:30pm-2:30pm/Online via Zoom
Winter 2021

This is a strange time for everyone, but I nonetheless look forward to programming with all of you, and I am committed to making it as comfortable as possible. Course schedule is subject to change.

Instructor Information

Instructor: Peter J. Kohler, PhD (he, him, his)
Office: 1012 Sherman Health Science Research Centre, Keele Campus
Office Hours: By appointment
Email: pjkohler@yorku.ca

Website

https://github.com/pjkohler/psyc6273

Textbook

Matlab: A practical introduction to programming and problem solving, 5th ed. (Attaway, 2018)

Evaluation

six tests (10%), two problem sets (40%), 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 over Zoom, and each 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, 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. This makes it important to think about what constitutes plagiarism. Here are some guidelines. You can discuss assigned problems with others as much as you want, and read each other's 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.

Course Schedule

date	topic(s)	readings	tests etc.
January 12th	introduction vectors and matrices	chapter 1 chapter 2	
January 19th	scripts and functions if-elseif-else	chapter 3 chapter 4	
January 26th	loops files, etc.	chapter 5 chapter 6	test 1 project proposal
February 2nd	the psychtoolbox		
February 9th	curve fitting		test 2
February 16th	**reading week – no class**		
February 23rd	image matrices, plots	chapter 11	test 3
March 2nd	data structures bootstrapping	chapter 8	problem set 1
March 9th	bootstrapping strings	chapter 7	test 4
March 16th	statistical functions		
March 23rd	simulations		test 5
March 30th	MEX files, the GUI, overflow and review		test 6 problem set 2
April 13th	Term project due		