HH/PSYC 6273 3.0 A
Computer programming for experimental psychology
Fall 2022

Instructor:	Richard Murray rfm@yorku.ca
Lectures:	Thursdays, 11:30 - 2:30 BSB 159 (Hebb lab)
Textbook:	Beginning Python, third edition (Hetland, 2017)
GitHub:	github.com/rfmurray/psyc6273
Evaluation:	six tests (10%), two problem sets (40%), term project (50%)

Overview. This graduate course covers computer programming methods that are useful for running experiments and analyzing data in experimental psychology. Students will learn a general-purpose programming language such as MATLAB or Python. Topics include basic programming methods and data structures, data files, curve fitting, device calibration, data visualization, statistical tests, model simulations, and interfacing to external devices.

LECTURE SCHEDULE

	topic	readings	tests, etc.
8-Sep	lists and tuples	chapter 2	
15-Sep	dictionaries	chapter 4	
	conditionals and loops	chapter 5	
22-Sep	strings; functions	chapter 6	test 1
29-Sep	psychopy		project proposal
6-Oct	files; review	chapter 11	test 2
13-Oct	*fall reading week; no class*		
20-Oct	objects; modules	chapter 7	test 3
		chapter 10	
27-Oct	numpy		problem set 1
3-Nov	numpy; matplotlib		test 4
10-Nov	curve fitting		
17-Nov	online experiments		
24-Nov	calibration		test 5
1-Dec	pandas		test 6
			problem set 2

Problem set 2 is due on Friday, December 9. The term project is due on Friday, December 16.

Detailed readings

September 8
- Lists and tuples: chapter 2, pp. 25-44

September 15
- Dictionaries: chapter 4, pp. 59-62
- Conditionals and loops: chapter 5, pp. 76-80, 83, 85-92

September 22
- Functions: chapter 6, pp. 101-113

October 6
- Files: chapter 11, pp. 241-243, 245-246

October 20
- Objects: chapter 7, pp. 129-137
- Modules: chapter 10, pp. 195-200

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 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.