

# HH/PSYC 6273 3.0 A

## Computer programming for experimental psychology Winter 2022

<b>Instructor:</b>	Richard Murray <a href="mailto:rfm@yorku.ca">rfm@yorku.ca</a>
<b>Lectures:</b>	Fridays, 11:30 - 2:30 online, via <a href="#">eClass</a> and Zoom
<b>Textbook:</b>	Beginning Python, third edition (Hetland, 2017)
<b>GitHub:</b>	<a href="https://github.com/rfmurray/psyc6273">github.com/rfmurray/psyc6273</a>
<b>Evaluation:</b>	two problem sets (25% each), 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

	<b>topic</b>	<b>readings</b>	<b>tests etc.</b>
14-Jan	installing python	chapter 2	
	lists and tuples		
21-Jan	dictionaries	chapter 4	
	conditionals and loops	chapter 5	
28-Jan	functions	chapter 6	test 1
			project proposal
4-Feb	objects	chapter 7	
11-Feb	strings, modules, and files	chapters 3, 10, and 11	test 2
18-Feb	psychopy, argparse		test 3
25-Feb	<i>winter reading week</i>		
4-Mar	calibration		problem set 1
11-Mar	online experiments		test 4
18-Mar	numpy		
25-Mar	pandas		test 5
1-Apr	matplotlib		
8-Apr	PIL		test 6
			problem set 2

The term project is due on Friday, April 15.

**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.