Lab Syllabus

Biol 5221 January 8, 2024
Lab: W 1–3PM Zoom

You will need to use your own computer for lab assignments. If you don't have a computer, contact Professor Seger, who will try to find one you can borrow. Please install a recent version of Python.

Due dates Lab reports are due a week after the date of the lab. They should be uploaded through Canvas as pdf documents.

Required readings All required readings are available on the course website. (1) *Just Enough Python* (JEPy); (2) *Lab Manual for Biol 5221* (LabMan).

Recommended readings *Beginning Python: From Novice to Professional*, 3rd Edn, by Magnus Lie Hetland, 2017.

Schedule

Date	Lecture	Reading
Jan 10 W	2nd lecture on probability, plus a brief introduction to Python. No lab report required.	
17 W	Python: introduction Lab 1: interacting with the Python shell	JEPy: Chs 0–1
24 W	Python: loops and lists Lab 2: Were Wolf's dice fair?	JEPy: Ch 2
31 W	Python: list magic and functions Lab 3: Using variance to study Wolf's dice.	JEPy: Ch 3–4
Feb 07 W	Lab 4: Simulating drift and mutation	LabMan: Ch 4
14 W	Lab 5: Simulating gene genealogies	LabMan: Ch 5
21 W	Lab 6: Using simulation to test a statistical hypothesis	LabMan: Ch 6
28 W	Lab 7: Simulating selection and drift	LabMan: Ch 7
Mar 06 W	$\star\star\star$ NO CLASS	
13 W	Lab 8: Using HapMap and catching up	LabMan: Ch 8
20 W	Lab 9: HapMap heterozygosity	LabMan: Ch 9
27 W	Lab 10: Simulating selection and drift at two loci	LabMan: Ch 10
Apr 03 W	Lab 11: LD in the human genome	LabMan: Ch 11
10 W	Lab 12: LD near human lactase gene	LabMan: Ch 12
17 W	Nothing planned	