

Tentative Lecture Schedule Spring 2021

Wk	Date	Topic(s)	Suggested Reading	Notes
1	11-Jan	Review syllabus, intro to probability		
	13-Jan	Properties of probability	Section 4.1, 4.2	
	15-Jan	The binomial distribution	Section 4.5.1.1	HW 1 due
2	18-Jan	MLK day – no class		January 19th last day to change grade option
	20-Jan	Characterizing distributions: mean and variance of discrete distribution	Sections 4.4.1 – 4.4.5	
	22-Jan	Working with the Bernoulli and binomial distributions	-link . Read up to Brownian motion	HW 2 due
3	25-Jan	cont...	Bolker Section 1.2.1 -Advanced reading: Codling et al. 2008	
	27-Jan	Point estimation with the binomial distribution		
	29-Jan	Modeling counts with the Poisson distribution	https://www.zoology.ubc.ca/~bio300b/poissonotes.html	HW 3 due
4	1-Feb	Continuous distributions I Exponential		
	3-Feb	Optimization of multiple parameters & numerical optimization	Bolker: 7	Last day to drop classes
	5-Feb	Review day		HW 4 due
5	8-Feb	The negative binomial distribution & the Normal distribution	Bolker: 4.5.2 - Linden and Mantyniemi (2011) on the neg binom	
	10-Feb	Sampling distributions and Wald intervals	- Visualization from the Whitlock and Schluter textbook	
	12-Feb	The Central Limit Theorem	- Lecture slides from Jose Ponciano on polygenic traits -The CLT: Web reading	HW 5 due

6	15-Feb	Presidents's day – no class		
	17-Feb	Likelihood profiles & confidence intervals	Bolker: Section 6.5 Blog: Why and when to use profile intervals Gary White example	
	19-Feb	Null hypothesis testing	Resources folder	HW 6 due
7	22-Feb	Building useful figures with ggplot	https://ggplot2.tidyverse.org/	
	24-Feb	Null hypothesis testing	FishersTeaLady text on Laulima	
	26-Feb	Hypothesis testing II	- American scientist article - The Conversation article	HW 7 due
8	1-Mar	Paired and unpaired t-tests	http://myweb.facstaff.wvu.edu/minerb2/biometrics/t_test.html	
	3-Mar			
	5-Mar	Statistical power & p-values Correlation	Greenland et al 2016 (Resources folder) Correlation and Linear Regression	HW 8 due
9	8-Mar	Randomization tests Pseudoreplication	Fieberg et al 2020 (Resources folder) Hurlbert 1985 (in folder)	
	10-Mar	Randomization tests cont.	Bolker 9.2	
	12-Mar	Contingency tests		HW 9 due
10	15-Mar	Spring recess – no class		
	17-Mar	Spring recess – no class		
	19-Mar	Spring recess – no class		
11	22-Mar	Power analysis	Ruxton & Beauchamp 2008	
	24-Mar			
	26-Mar	Kuhio day - no class		HW 10 due
12	29-Mar	Multiple regression		
	31-Apr	Multiple regression		
	2-Apr	Good friday - no class		HW 11 due
13	5-Apr	Transformations		

	7-Apr	Collinearity	Graham 2003	
	9-Apr	Nonlinear regression		
14	12-Apr	Model selection I	Tredenick et al. 2021	
	14-Apr	Model selection II		
	16-Apr	ANOVA	Bolker: Section 6.6.2 through 6.7	HW 12 due
15	19-Apr	GLM's I	Bolker: Section 6.6.2 through 6.7	
	21-Apr	GLMs II		
	23-Apr	GLM's III		HW 13 due
16	26-Apr	PCA		
	28-Apr	PCA II		
	30-May	TBD		HW 14 due
17	3-May	Presentations		
	5-May	Presentations		Last day of instruction