

Professor: Brett Goodwin

Phone: 777-2757

Lectures: Mon., Wed. & Fri. 11:00-11:50, O’Kelly 334

Web page: via Blackboard (lecture outlines, assignments, etc.)

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Textbook:

Zar, J.H. 1999. *Biostatistical Analysis*, 4th ed. Prentice Hall, Upper Saddle River, NJ.

Prerequisites: BIOL 150 and BIOL 151

Course Description and Objectives:

The objective of this course is to introduce you to the key concepts and techniques used in the statistical analysis of data, primarily biological data. We will focus on analyzing real data sets and the interpretation and presentation of those analyses.

By the end of the course you should be able to interpret and critically assess standard statistical analyses in the literature and perform standard statistical analyses on biological data.

Evaluation:

	A ≥ 90%
In class work.....20%	B ≥ 80%
Assignments (5% each).....60%	C ≥ 70%
Final Exam (Take home).....20%	D ≥ 60%

In class work: Throughout the semester we will have in class activities. Many of these will be handed in for grading.

Assignments: There will be weekly assignments on the material covered in class. Assignments will be available on Blackboard a week before they are due. All assignments will be due in my office by 5:00 PM on the Wednesday of the week they are due, late assignments will not be accepted. Assignments must be done on a word processor – hand-written assignments will not be accepted. Many of the assignments will ask you to analyze real data sets. More details about how you will be able to do that will be forthcoming.

Final Exam: The final exam will be a take home exam. It will cover the entire course. The exam will be much like the weekly assignments only covering more material (and therefore take longer to do).

Tentative Lecture Schedule:

Week of	Topic	Assign. Due Wed.	Reading Zar
Jan. 12	Course Introduction Data, Samples, and Populations		1.1-1.2, 2.1-2.4
Jan. 19	Martin Luther King Jr. Day (Jan. 19 - no class) Descriptive Statistics		3.1-3.5, 4.1-4.7
Jan. 26	Presenting Results	1	1.3-1.4, 7.4
Feb. 2	Probability and the Normal Distribution	2	5.1-5.7, 6.1-6.5
Feb. 9	One- and Two-Sample Hypotheses	3	7.1-7.3, 8.1-8.2, 8.9-8.10
Feb. 16	President's Day (Feb. 16 - no class) Paired-Sample Hypotheses	4	9.1-9.3, 9.5, 13.1-13.4
Feb. 23	ANOVA	5	10.1-10.2, 10.4, 11.1-11.7
Mar. 1	Two-Factor ANOVA	6	12.1-12.6, 12.8- 12.11
Mar. 8	Multi-Factor and Nested ANOVA	7	14.1-14.6, 15.1- 15.3
Mar. 15	Spring Recess (no classes)		
Mar. 22	Correlation and Simple Linear Regression	8	17.1-17.6, 17.10, 19.1-19.3, 19.9
Mar. 29	Polynomial and Multiple Regression	9	20.1-20.13, 21.1-21.3
Apr. 5	ANCOVA Easter Holiday (Apr. 9 - no class)	10	12.12, 18.1-18.9
Apr. 12	Easter Holiday (Apr. 18 - no class) Goodness of Fit	11	22.1-22.9
Apr. 19	Contingency Tables	12	23.1-23.8
Apr. 26	More on Dichotomous Variables	13	24.1-24.7, 24.10
May 3	Experimental Design Reading & Review Day (May 7)	14	
May 10	Exam Week	Take Home	

Any student that needs special accommodations for learning or has special needs should discuss these needs with me as soon as possible.

Academic dishonesty (see the Code of Student Life) will result in a mark of 0 on the assignment. A second act of academic dishonesty will result in a mark of 0 in the course.