

# Summer 2008 – Session 01 - BIOL 51A - Biostatistics

## Instructor

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## Teaching Assistants

None, as of now.

## Course information

Course: BIOL 51a: Biostatistics  
Summer Session 01: Jun 02 – Jul 03, 2008  
Class Time: MTRF 11:00a-01:00p  
Classroom: Goldsmith 317

## Course Description

This is an introductory statistics course, with a focus on applications in biology, medicine, and public health.

## Textbook

Required: Pagano, M & Gauvreau, K (2000), *Principles of Biostatistics*, 2nd Ed.  
Duxbury Thomson Learning, Pacific Grove, CA, USA.

Week	Subject	P&G Reading
1 (1/16-23)	Administrative introduction; introduction to Biostatistics; descriptive statistics	Chs 2-3
2 (1/28-30)	Descriptive statistics (continued), basics of probability	Ch 6
3 (2/4-6)	Diagnostic tests and Bayes Theorem; probability distributions	Chs 6-7
4 (2/11-13)	Probability distributions (continued); sampling distributions; inductive logic and statistical inference	Ch 8
5 (2/25-27)	Confidence intervals and hypothesis testing	Chs 9-10
6 (3/3-5)	Two-group comparisons, proportions	Ch 11
7 (3/10-12)	Categorical data (continued); MIDTERM	Chs 14-15
8 (3/17-19)	Linear models (ANOVA, regression)	Chs 12, 19
9 (3/24-26)	Linear models (ANOVA, regression)	
10 (3/31-4/2)	Introduction to logistic regression	Ch 20
11 (4/7-9)	Rates and life tables	Chs 4-5
12 (4/14-16)	Introduction to survival analysis	Ch 21
13 (4/21-23)	Nonparametric methods	Ch 13
14 (4/28-30)	Introduction to statistical methods for bioinformatics (descriptive methods, multiple comparisons, false discovery rate)	-

## Grading

30% Homework  
30% Midterm  
40% Final

Homework: Approximately 10 assignments. All but one assignment will consist of 4-5 extended word problems. The remaining (the third or fourth) will be a short paper (1-2 pages) in response to a reading assignment. Grading will be on a coarse 4-point scale, 0-3, where 4 will be awarded if every problem was attempted honestly with sufficient level of detail.

Midterm and Final: Closed-book, closed-notes, multiple-choice, short answer, with some calculations. Calculators will be permitted.