Biostatistics (HS 167)
FALL 2006
Department of Health Science
San Jose State University

Website: www.sjsu.edu/biostat → click "hs167"

Instructor: Jane Pham   **Office:** MH 326   **Office Tel:** (408) 924-3294
Email: janetgpham@yahoo.com   **Office Hours:** Tuesday 2:00 – 3:00 pm

Graduate Teaching Assistants: Henry Fisher, Marianne Szeto, Amy Wong

Pre-requisite: Undergraduate students—completion of GE statistics course (e.g., HS 67) or permission of the instructor. Graduate students—Graduate standing and completion of GRE exam.

Course Organization: The course meets twice weekly. Tuesdays is a lecture for all students. You must attend one of the Lab period listed below.

Lecture (All students must be enrolled)
Section 1: Tu 3:00 – 4:15 in SH100

Lab (You must be enrolled and attend one of the weekly lab sections)
Section 2: Tu 4:30 – 6:00 in MH321
Section 3: We 12:00 – 1:30 in MH321
Section 4: Th 3:00 – 4:30 in MH321
Section 5: Mo 3:00 – 4:30 in MH321

Required Materials
(1) *Course Lecture Notes.* Available in Spartan bookstore.
(2) *Lab Manual.* Available in Spartan bookstore.
(3) *Calculator.* Only the TI-30XIIS will be supported.
(4) *Graph paper.* Four lines per inch recommended.

Optional Materials
(1) *SPSS Statistical Software* (student version 11 or higher).
(2) *Statistical utilities* (see course homepage)

Attendance: It is important for you to attend all class sessions. "Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because [attendance is] essential to ensure maximum benefit ...." (SJSU policy).

Academic Integrity (from Office of Judicial Affairs): Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the office of Judicial Affairs. The SJSU policy on academic integrity can be found online at the following URL: www.sjsu.edu/senate/S04-12.htm

Disability: If you need course adaptations or accommodations because of disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability.

University Drop Policy: Please see the Schedule of Classes for details about drop procedures.

Homework Policies

- Homework is due at 3:00 pm sharp each Tuesday except for Tuesdays preceding exams.
- Late assignments will not be accepted.
- You may *not* collaborate on graded homework problems unless otherwise specified. Plagiarism will be reported to Office of Judicial Affairs.
- You may ask any question you like about homework in lab or online via the discussion group.
- Graded assignments are returned within the week.
- Work neatly and accurately. Apply reasoned judgment.

Learning objectives by unit:

1 Measurement and sampling—To define *measurement*; identify measurement scales; differentiate measurement error from processing error; to select a simple random sample.
2 Frequency Distributions—To construct and interpret stemplots; to compile and interpret frequency tables.
3 Summary Statistics—To calculate and interpret means, median, standard deviations, quartiles, and boxplots.
4 Probability—To define probability; to calculate and interpret binomial probabilities; to determine Normal percentiles and probabilities.
5 Introduction to estimation—To understand the construction of a sampling distribution of a mean; to estimate μ with confidence; to determine sample size requirements; to limit the margin of error for the confidence interval of μ.
6 Introduction to hypothesis testing—To understand the logic of hypothesis testing; to perform and interpret *z* and *t* tests.
7 Paired samples—To discern between paired and independent samples; to explore and describe paired samples; to calculate and interpret confidence intervals; to conduct a t test for paired differences; to determine the power of a *z/t* test.
8 Independent samples—To explore and describe data from independent groups; to calculate and interpret confidence intervals and tests for mean difference; to determine the sample size requirements for a *t* test.
9 Inference about a proportion—To calculate and interpret confidence intervals and tests for proportion (Normal approximation method); to determine the sample size requirements to estimate a proportion with a given margin of error.
9.5 Comparison of independent proportions—To compare independent proportions; to test independent proportions for a difference.

Grading

Component	Description	% Course Grade
Homework exercises	Homework is assigned each Tuesday and due the following Tuesday. Late papers will not be accepted. Graded for correctness and completeness.	20%
Lab notebook	Graded for completeness.	10%
Exams	Two midterms and a final (closed-book, but with necessary formulas provided)	20% each midterm 30% final exam

Example of a grade calculation:

COMPONENT	% EARNED	×	weight		contribution
HW score	90	×	0.20	=	18
Lab notebook	85	×	0.10	=	8.5
Midterm #1	100	×	0.20	=	20
Midterm #2	82	×	0.20	=	16.4
Final	85	×	0.30	=	25.5
		Weighted average =			88.4
					Grade: B+

Grade cutoffs:

100-97%	A+	89-87%	B+	79-77%	C+	69-67%	D+	Below 60%	F
96-93%	A	86-83%	B	76-73%	C	66-63%	D		
92-90%	A−	82-80%	B−	72-70%	C−	62-60%	D−		