Introductory Health Statistics (HS 067)
Fall 2011
GE Area B4 (Mathematical Concepts)
Department of Health Science
San Jose State University

Course Description: This course provides a practical introduction to statistical methods used in a variety of health and human service settings. Concepts are illustrated with concrete examples that demonstrate how principles are applied to common health problems.

Prerequisite: Satisfaction of CSU Entry Level Math (ELM) requirements.

Online statistics classes are not appropriate for everyone. They require a high level of quantitative reasoning, commitment, and self-discipline. If you feel you may be unable to handle these requirements, please consider dropping the course and taking an standard statistics course.

Course format:	This is an **online course with four on-campus meetings**. The first on-campus session will occur on Thursday September 3rd at noon in a location to be determined. The class will use this session to determine the on-campus exam schedule. We will use the **Blackboard (Bb) online learning platform** as our primary means of content delivery and communication. See http://www.sjsu.edu/ecampus/ for information about Bb use at SJSU. Use http://sjsu6.blackboard.com/ to sign on to the Bb site.
Attendance:	Students are expected to attend all on-campus meetings and to sign onto the Bb website daily (5 times per week).
Professor:	Bud Gerstman
Email:	Please use the *Bb e-mail* tool as our primary means of communications.
Phone:	(408) 924-2978
Office:	MacQuarrie Hall 514
Office hours:	Tu & Th 11:30 – 12:45; We 1:00 – 1:45
Textbook:	Moore, D. S. (2010). *The Basic Practice of Statistics. Fifth Edition.* New York: W. H. Freeman and Company.
Calculator:	The TI-30XIIS will be supported. You may also use a TI-8x graphing calculators, but these will not be supported by the instructor.
Graph paper:	Four lines per inch. Here is a link to a printable page: www.sjsu.edu/faculty/gerstman/hs67/graph.pdf

The course calendar and assignments are posted on the Bb Website!

General Education Objectives (Area B4): The primary goal of GE area B4 is to enable the student to use numerical and graphical data in personal and professional judgments and in coping with public issues. Learning objectives for area B4 GE courses are:

1. To use mathematical methods to solve quantitative problems, including those presented in verbal form.

2. To demonstrate the ability to use mathematics to solve real life problems.
3. To arrive at conclusions based on numerical and graphical data.
These General Education objectives are addressed in every unit we cover.

Course content includes:

"*Diversity.* Issues of diversity should be incorporated in an appropriate manner." Diverse populations are sampled using statistically valid techniques. Variability in populations is addressed graphically (e.g., stemplot, histogram, boxplot, scatterplot, residual plot) and numerically (e.g., interquartile range, standard deviation).

"*Writing*. The minimum writing requirement is 500 words in a language and style appropriate to the discipline." Writing assignments consist of two to three statistical reports and narrative responses on exams. Reports are graded based on appropriate use of statistical methods, accurate results and conclusions, organization of the report (Purpose, Methods**,** Results, Discussion, References), and mechanics of writing (word choice, logic, grammar, spelling, punctuation, citations and references). A separate handout available on the course website describes the writing assignment.

The curriculum follows selected chapters in the textbook by Moore and includes content on (a) basic mathematical techniques for solving quantitative problems, (b) elementary numerical computation, (c) organization, classification, (d) representation of quantitative data in various forms including the use of tables, graphs, rates, percentages, measures of central tendency and spread, d) application of mathematics to everyday life as they apply to health outcomes, and (e) applications of mathematical concepts to statistical inference.

Public Service Announcement: The SJSU General Education Board would like you to know that courses that meet Areas R, S, and V for SJSU Studies courses must be taken from three different departments or distinct academic units.

Learning Objectives Specific to the Course	Chapter assignments*
1. Calculate, display, and interpret rates and proportions used in studies of health and disease.	1, 2, 4, 6
2. Organize and present data using tables, graphs, and summary statistics.	1, 2
3. Use probability as a tool for addressing random variation in statistical relationships.	10, 11, 14, 18, 19
4. Calculate and interpret confidence intervals for means and differences in means.	14, 18, 19
5. Understand the conceptual basis of significance testing; calculate and interpret statistical tests for means and mean differences (paired and independent samples).	11, 15, 18, 19
6. Determine sample size requirements for selected types of statistical inferences.	11, 14, 15, 18

* Problem sets are posted online.

Academic Integrity (from the Office of Student Conduct & Ethical Development) "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 at www2.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.

ASSIGNMENTS AND ACTIVITIES

Component	Description	% of grade
Homework exercises	Selected HW sets submitted via Bb assignment tool	20%
Participation	Bb and on-campus participation	10%
Statistical report	Brief report of statistical analysis (separate handout)	10%
Exams	Two midterms and a final (closed-book, formula card)	60%
Total		100%

Grades 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−		

Example of a grade calculation:

COMPONENT	% EARNED	×	weight	=	Contribution
HW exercises	95	×	.20	=	19.00
Participation	90	×	.10	=	9.00
Statistical report	85	×	.10	=	8.50
Average exam score	92	×	.60	=	55.20
				Weighted average =	91.7
					Grade: A-