Introductory Health Statistics (HS 67)

Spring 2016

GE Area B4 (Mathematical Concepts)
San José 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 examples that demonstrate how principles are applied.

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

Professor: B. B. Gerstman

Location: MH 322

Contact info: B.B.Gerstman@sjsu.edu

Assignments: http://www.sjsu.edu/faculty/gerstman/hs67/ → *eCalendar*

Office hours: Wednesdays 800 - 845 *by appointment only.*

Office locaton: SPX 246

Textbook: http://www.sjsu.edu/faculty/gerstman/StatPrimer/
Exercises and review questions are updated on this site weekly.

Calculator: TI-30XIIS (required)

General Education Objectives (Area B4: Mathematical Concepts): This course meetings General Education (GE) Area B4 requirements, which are intended to enable the student to use numerical and graphical data in personal and professional judgments and in coping with public issues. GE learning objectives are addressed in each and every lesson and include:

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.

Diversity is incorporated in an appropriate manner by considering statistical sampling of populations and measures of variability in graphical (stemplot, histogram, boxplot, scatterplots, residual plot) and summary statistics forms (e.g., 5-number summary (quartiles), variance, standard deviation, coefficient of variation).

Writing with a minimum requirement of 500 words in a language and style appropriate to the discipline is assessed as part of graded homework assignments, which will include brief summary reports. Writing is graded based on word choice, logic, grammar, spelling, and punctuation.

The curriculum addresses: (1) basic mathematical techniques for solving quantitative problems, (2) elementary numerical computation, (3) organization, classification, and representation of numerical data in graphical, tabular, and narrative form, (4) application of mathematics to health outcomes, and (5) applications of statistical inference (estimation and hypothesis testing) to solving health problems. Specific learning objectives include the ability to:

- calculate, display, and interpret summary statistics and proportions in studies of health,
- organize and present data using tables, graphs, summary statistics, correlation & regression models, and two-way cross-tabulations of counts,

- use probability as a tool for addressing random variation in statistical relationships,
- calculate, interpret, and understand the conceptual basis of confidence intervals for means, mean differences, and proportions,
- calculate, interpret, and understand the conceptual basis of significance tests for means, mean differences, and proportions, and
- determine sample size requirements for selected types of statistical inferences.

Grading. I strive to be as objective as possible in grading student work by using pre-coded grading keys and grading blindly when possible. I hold students to "the best scholarly and ethical standards of [the] discipline" and "ensure [my] evaluations reflect each student's true merit" (AAUP Statement on Professional Ethics Policy Documents and Reports, 1990, pp. 75 -76).

The course has the following graded components: homework (20%), participation (20%), midterm 1 (20%), midterm 2 (20%), final exam (20%). Your course grade is the average of these components after rounding to two significant digits and using the grade cutoff table shown below.

100-97%	A+		89-87%	B+		79-77%	C+		69-67%	D+		>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−			

Homework assignments are updated weekly on the eCalendar. There is a strong *causal* relationship between HW *quality* and course grade.

Evidence of **participation** includes preparation for class, quality and consistency of engagement.

Time. Keeping up with the course demands considerable time and effort. Time to do extra credit is *not* available.

Academic Integrity: Your commitment to learning is evidenced by your enrollment at San Jose State University. The University's Academic Integrity Policy *requires you to be honest in all academic course work*. Faculty are required to report all infractions to this office www.sjsu.edu/studentconduct/. Cases of s*uspected* academic dishonesty *will* be reported.

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. Students are responsible for understanding the policies and procedures about adding and dropping courses. Information about the latest changes and news is available at http://www.sjsu.edu/advising/.

Librarian specialist. Basu, Geetali. Phone: 408-808-2651 Email: Geetali.Basu@sjsu.edu

The e-calendar linked to www.sjsu.edu/faculty/gerstman/hs67 is part of this syllabus by reference.