Math and Stat Prerequisites

For Quantitative
Public Health Courses

Why Worry about the Math Prereq?

- To prevent interference with ability to learn course content
- To enable the study of at an appropriate level
- To not waste the time of other students
- To improve grades in the course

Math Competencies

- Arithmetic and pre-algebra (nothing "fancy")
- Math placement tests used @ SJSU
  - ELM
  - Proficiency in SAT, ACT, or AP
  - Quantitative reasoning course "work around / loophole (not reliable)
- Self-responsibility = key to success

Math Pretest

- 20–25 questions
- Given on Bb platform
- Closed book, no calculator
- Scratch paper provided
- Students receiving low scores:
  (a) asked for ELM documentation
  (b) referred to remediation
  http://www.math.sjsu.edu/~mcclory/
  (c) given written notification of risk

How to Prepare for Math Pretest

- Students who have recently completed their ELM test require no special preparation
- Handout listing topics & review materials provided before the self-test

Areas to be Tested

- Sums (addition), differences (subtraction), products (multiplication), and ratios (division)
- Order of operations
- Fractions, decimals, percents, ratios, proportions
- Significant digits
- Scientific notation & rounding
- Simple equations and checking of solutions
- Negative numbers
- Word problems
- Basic properties of logs and exponents

Note: no trig or geometry

Surgeon General's Warnings

SURGEON GENERAL'S WARNING:
Inability to do arithmetic causes confusion, poor grades and the inability to learn biostatistics.

Stat Prereq.

- HS 67 preferred, but other accredited courses OK if completed within reasonable period of time and basics were learned
- How to Prepare: Review relevant sections in pre-req text book, e.g., in Moore (2007): Ch 1 - 3, 10, 14, 15, 18, and 19)
- Class time will be devote to reviewing some of the basics in the week preceding quiz

Intro Stat Course

- Categorical and Quantitative Measurements
- Descriptive methods
  - Center: mean, median (quantitative data)
  - Spread: quartiles, standard deviation
  - Categorical data ⇒ counts and proportions
  - Stemplots and histograms
- Distribution concepts: shape, location, spread

…continued on next slide

(cont.)

- Formula notation
- Rules of probability
- Normal distribution characteristics
- Normal distribution probabilities and percentiles
- Inference (confidence interval and significance testing) basics
- Inference about μ, z procedures (σ known)
- Inference about μ, *t* procedures (σ not known)