Welcome to Math 1203 - Intro to Stats
for Social Sciences

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Dyknow
HW: Download & install
for Comm. Settings. vision.dyknow.com/shu.edu

User: 8-Galter
pwd: -same-
Panel 3

Syllabus:

Need: Textbook /
Stat Crunch access /

Grading: 
1 exam: 300 p
1 final: 100 p
Quizzes: 100 p
Computer: 100 p

Panel 4

[Hand-drawn smiley face]
Course Overview:

1. Overview: Population, sample, types of variables
2. Sample and Measurement:
   Randomization, sampling methods
3. Descriptive Stats: distribution, descriptive stats, central tendency, variability
4. Probability Distributions: normal distribution, Central Limit Theorem

Statistical Inference: Estimation
   Confidence intervals

Statistical Inference: Significance Tests
   Tests for means, proportion, independence

Associations between Categorical Vars
   Contingency Tables, Chi-Square

Linear Regression & Correlation
   Scatter Plot
7. Comparing Two Groups: Test for means
What is Statistics?

Use of #s to explain stuff

Prob. of something to occur

data representation as charts,
predictions

Panel 8

What is Statistics?

Statistics is the science of making sense of data

Statistics consists of a body of methods for obtaining and analyzing data

- collect data  \[\rightarrow\] Design Phase
- summarize data  \[\rightarrow\] Descriptive Phase
- analyze  \[\rightarrow\] Inference Phase
- report
Panel 9

Example: Use a small group of numbers to make inferences about a large group.

GSS - General Social Survey - asks 2000 adults questions such as: "Do you believe in life after death?"

Suppose 1250 say "yes."

Design - get data

Description: 1250 out of 2000 said "yes."

Inference: 62.5% of US adults believe in life after death (± 5% margin of error).

Panel 10

Population: Set of all measurements under consideration

Sample: Subset of measurements from population

Descriptive Statistics: Summarize info into data points

Inferential Statistics: Predictions about population based on sample data.
Parameter: # to summarize population

Skewness: # to summarize sample data

Ex: 1850 randomly selected US adults were asked “do you believe in heaven”? 1000 answered “yes”, 800 “no”, and 50 did not answer. We compute, somehow, that 55.5% ± 3% of US adults believe in heaven.

Ex: 1850 randomly selected US adults were asked “do you believe in heaven”? 1000 answered “yes”, 800 “no”, and 50 did not answer. We compute, somehow, that 55.5% ± 3% of US adults believe in heaven. Identify:

population: US adults

sample: 1850

descr. stats: 1000 out of 1790

inf. stats: 55.5 ± 3%

statistic: 50 said nothing

parameter: 800 no’s

% of all US adults < no

(unknown)
Ex: Find avg. exam score in this class

No sample necessary, compute parameters directly into estimation

Ex: Tax auditor has 25,000 accounts. How many are in error?

Pick 200, check those, estimate parameters based on the stats.

Start Crunch + GSS Data

Login to www.statcrunch.com,
load GSS 2008 data
play around with it
Want to calculate variables:

categorical

quantitative