STA 291
Lecture 12

- **Exam 1, 5pm-7pm today, Memorial Hall**
  - Bring a calculator.
  - You will get a formula sheet, like the one online.
  - Makeup Exam: 7:15pm – 9:45pm, CB 234

- ***no*** laptop, ***no*** cellphone, ***no*** blackberry, ***no*** iphone, etc (anything that can transmitting wireless signal is not allowed)

- Makeup exam list: See if your name is on the list at http://www.ms.uky.edu/~mai/binomial.html
- if you have a conflict and not on the list, talk to me, with your schedule.

- Bring a picture ID, after sitting down, put the ID at your table/armrest.

Review of Topics (includes, but need not limited to)

Probability:

events and their probabilities, notation: A and P(A).

assigning probabilities in a table.

(equally likely, fair die, fair coin, well shuffled deck of cards, select randomly, etc.)

Rules of Probability (most are on formula sheet)

7 rules.

Sometimes, you need to use more than one rule to get the final result.

- R x C Contingency table:

  joint and marginal probabilities, its properties.

Independent or not independent

Conditional probability

P(A|B)

- The wording for conditional probability:

The probability of A given that B had happened.

The probability of A, if B happened.

If we know that B is true, what is the probability of A.

Under the condition that B is true, what is the probability of A.

- Take your time in writing down what is meant by event A and what is your event B, etc. before using the probability rule(s)

- And draw a so called Venn diagram of events to help you think

- P(A|B) or P(B|A) ? (they are different!)

- Independent or disjoint? (they are different!)

- Get the conditional probability formula from the formula sheet:

- Union ‘or’ $A \cup B$
- Intersection ‘and’ $A \cap B$

- Mean
- Median their properties

- Sampling technique

- SRS
- And others: stratified, cluster, systematic, voluntary …

- Experimentation: the subjects ARE volunteers. The randomness is in the allocation of treatment/control group.

- Placebo-control
- Randomized
- Doubly-blinded

- Population parameter
- Sample statistic

- Various graphs/plots, what can we read from it?

- Covers up to mean and median of a sample (beginning of chapter 6). But not any measure of spread (i.e. standard deviation, inter-quartile range etc)

Chapter 1-5, 6(first 3 sections) + 23(first 5 sections)

- Lab this week is not going to cover new materials.
- Lab will turn into question/answer/office hour. (in the usual places)
- No attendance record is taken this week for LAB

Attendance Survey Question

- No attendance recorded today.

- Study hard and good luck on the exam.