Chapter 4

1. What is inferential statistics? How is it different than descriptive statistics?
2. Understand the normal curve (Central limit theorem): Unimodal, symmetrical
3. 50%-34%-14% (Z = 0, 1, 2): Able to compute percentages; Z → % and % → Z
4. Compute % using Z table; Z → % from table and % → Z from table
5. Understand *probability* (relative vs. expected relative frequency) and how to compute it; Normal curve as a *probability* distribution.
6. Sample vs. population
7. Random sampling from haphazard sampling
6. See learning aids on page 139... excellent way to study

Suppose people's scores on a particular measure are normally distributed with a mean of 50 and a standard deviation of 10. If you were to pick a person completely at random. What it he probability you would pick someone with a score on this measure higher than 60? (see page. 137).

A real life example: A family member is scheduled for surgery and you ask the surgeon about the likelihood (i.e., the probability) of success of the procedure. The surgeon respond, about 1%! Is this acceptable?

Chapter 5

1. What is hypothesis testing? Hypothesis vs. theory
2. Know the steps in hypothesis testing; Know step # 3 very well, (e.g., cutoff Z for top 1 or 5%)
3. Sample (population 1) vs. comparison distribution (Population 2)
4. Research (alternative) vs. null hypothesis. Why is the null hypothesis rejected?
5. Statistically significant vs. inconclusive results.
6. One- vs. two -tailed tests and directional vs. nondirectional hypotheses.
7. Type I vs. II errors and their relationship to *p* values and directional vs. nondirectional hypotheses.

Chapter 6

1. Understand the distribution of means and when to use it.
2. Know the stages of hypothesis testing (Step 2 very important, why?)
3. Shape of distribution of means (its SD^2, SD) and its shape (unimodal, symmetrical, normal)
4. How to compute a Z score for a sample's mean on the distribution of means (step 4)
5. Remember!!it's $SD^2_M = SD^2/N$. Compute SD^2_M when SD = 3, and N= 3, is SD^2_M = 1 or 3?
6. Know who to compute Confidence intervals, estimations, population mean vs. sample mean, etc.
7. Pay attention to learning aids.

Chapter 7

1. What is effect size? Small, medium, large, why is it important?
2. Statistical power and how to increase it, What are the ways to increase power?
3. How is Power related to Type I and Type II?
4. Only the material discussed in class