

Criminal Justice 44.395
Criminal Justice Statistics
Study Guide for Second Midterm Exam

This sheet includes a summary of many of the topics we covered in class. Please note that this list is provided as a **general** reference to help direct your studies. This sheet is not intended to be an **exhaustive** list of all of the areas to be covered on the exam. As I mentioned in class, you are responsible for both the material covered in lectures, as well as that discussed in the assigned readings. Below I list some of the important concepts that I feel will be important to review for the exam.

Conceptual Items (in no particular order)

- I. The normal curve
- II. Population Distribution/ Sample Distribution/ Sampling Distribution. Each has a different set of features that we discussed in class.
- III. Standard error
- IV. Z-distribution (i.e., when do we use this distribution, why). Additionally, if you should be able to read and interpret values in Table A. What does column “B” tell us as researchers, how about column “C”, how are they different?
- V. T-distribution (i.e., when do we use this distribution, why). Additionally, if you should be able to read and interpret values in Table C. What does the far left column tell us. How do we use this table to find the values necessary to solve questions?
- VI. Confidence levels/alpha levels. In general terms, each of these terms, while related, tell us something different. What information does each of these values provide us as researchers?
- VII. Null/Research hypotheses. We spent a number of classes discussing these concepts. What are they, how are they related, what are they really saying, how do researchers indicate that they are using these hypotheses to address general (i.e., two-tailed) or specific (i.e., one-tailed) research questions?

Statistical Calculations (in no particular order)

- I. Calculating critical Z and T values (i.e., Z_{comp} ; T_{comp}).
- II. The area under the normal curve between two points; or above/below a given observation.
- III. Confidence Intervals.
- IV. Testing the difference between sample means (one-tailed and two-tailed hypothesis tests). This includes all of the steps we discussed in class; a comparison between the computed and critical test statistics (either Z or T values); and being able to ground your interpretation not only in statistical terms, but also relating your finding back to the substantive question of interest.

