

My Dearest of Students,
My substitutes for the children I never had (lol)
Please listen to my wisdom.

You can make an A on exam 2 unless you are so dumb that you cannot be executed, that is, if you study hard. I have given you steroids for the brain. I have given you all I got to enlighten you and help you reach Nirvana.

And, if you make an A - listen to me the wisest of the wisest, The Cuban guru that sanctifies himself by eating a plantain a day and for good measure a coconut - you will feel a surge within yourself and gain confidence if you make an A in a very hard subject.

To help you in your pass to glory and the American way here is some concrete advice:

- You can lose a lot of points by not knowing how to calculate normal probabilities since you are going to have to do Central Limit Theorem calculations involving \bar{X} and \hat{p} that involve finding areas under the normal curve. Pay attention to “reverse normal calculation” that you need to find quantiles. Know how to interpret a quantile, for example, the 25 percentile is the point for which the probability of being less than it is 0.25. To help you review these concepts I have attached my detailed notes – showing my incomparable penmanship and drawing talent – that show how to calculate normal probabilities.
- The devil will try to lead you astray by tricking you to sin by making you do Z-type calculation of probabilities in a population that is not normal but skewed. In a moment of malevolence I, myself, tricked you into doing this in this week’s quiz.
- You are likely to be asked in the conceptual questions to explain what a 95% confidence interval is. It is: “if you select a lot of random samples and from each calculate a confidence interval then 95% of them will contain the true value of the parameter, which in our case is the population mean or the population proportion.”
- Read with care my tutorial [The Concept of Confidence Interval for the Mean](#) that I wrote (viva Ramon) found in the course web site that I built using my incomparable knowledge of the Internet. You know, it was me who invented the Internet not Al Gore. When you read my tutorial pay particular attention to how to find the t-values from the table used in confidence interval calculations.
- You are likely to be asked when the bootstrap confidence interval is better than the t confidence interval. Well, when the sample size is less than 30 the t-confidence interval assumes that the population is normal. Thus, if it is skewed your calculations of the t confidence interval are invalid and you have to use the

bootstrap confidence interval. This remark will also help you in a similar question in the project.

- Know how to calculate the standard deviation of the sample mean, \bar{X} , and the sample proportion, \hat{p} . The formulas are:

$$s_{\bar{X}} = \frac{s}{\sqrt{n}} \text{ and } s_{\hat{p}} = \sqrt{\frac{p(1-p)}{n}}$$

- Know the conditions for the normal approximation of \hat{p} to be good. This are:

$$np \geq 5 \text{ and } n(1-p) \geq 5$$

Love, affection and encouragement from who if he had chosen to be a coach would win all games.

Ramón León

P.S: Now seriously, if you don't do well in the exam I am going to be really p. o. and won't love you any more.