

## ECON 6331— Quantitative Economic Analysis: Probability and Statistics

**Instructor:** Bent E. Sørensen

**Office:** McElhinney 209A

**Tel:** 713-743-3841

**email:** bent.sorensen@mail.uh.edu

**WEB-page:** the class WEB-page will be accessible from my home-page: [www.uh.edu/~bsorensen](http://www.uh.edu/~bsorensen)

**Hours:** Tuesday 2-3 pm, by appointment, and just drop by (in the case of drop-by I may occasionally be too busy, but don't let that be a discouragement). It is essential for serious study that you ask me or the TA when the material seems unclear to you).

### Course Description

#### Readings:

*Textbooks:* Ramu Ramanathan [R]: Statistical Methods in Econometrics, Academic Press 1993. We will follow the book quite closely. We will cover most of the first 7 chapters.

This book is written by an econometrician and it therefore aims directly at preparing you for econometrics. In terms of difficulty it is somewhat uneven—it aims to cover the statistic that economists *should* know, whether it is “hard” or not. You need to understand the concepts covered in class—it is less essential that you understand every word in the book. (Do NOT read material that we don't cover.)

Some good supplementary texts (not written directly for econometricians) are:

Hogg and Tanis [HT]: Probability and Statistical Inference. 6th edition, Prentice-Hall 2001. (The book store seems to be out of this book at the moment.)

George Casella and Roger Berger [CB]: Statistical Inference, 2nd edition, Wadsworth 2002.

HT has been used for this course in the past. It is quite thorough and fairly accessible and you may want to use it where you find R to be too thin. (Note: For the first year it is not advisable to read too much material that is not directly relevant to the exam; so your focus should be the class notes.) HT is not directly written for econometricians.

The CB text is more advanced. It is quite good if you want to make the effort. It may make sense for students who want to specialize in econometrics to get to know this book. (If you want to specialize in theoretical econometrics, you should consider classes in the math department.)

*Notes* Supplementary notes may be posted on the class WEB-page.

**Material covered:** Basic probability and random variables, probability distributions (with particular focus on the normal distribution and the distributions derived from the normal). Sampling theory, asymptotic distribution theory, estimation and hypothesis tests. (Check last years detailed syllabus...I hope to get a little further this semester but usually I don't get to hypothesis tests.)

**Grading and assignments:** There will be 2 midterms, a final, and 6–8 homework assignments. Grades will be based on the mid-terms (20% each), home-works (20%), and a final (40%).

**Teaching Assistant:** The TA is Mustafa Hattapglu. He or she will grade the homework assignments.

**General advice:** Make sure you understand the material after each topic is covered (don't suffer from the illusion that you will understand it better when exam-time draws near). If the point of some topic is not clear, ask questions in class and *see me in my office*—this is part of good study habits and without good study habits graduate studies don't go far. You can also email questions to me. There really is only one dumb question, and that is the un-asked question. Why spend hours on something the teacher may be able to clear up in 2 minutes? I could go on, but you should consider it your duty to yourself to seek advice.