Course Information

Time: MWF, 11:45 a.m. – 12:35 p.m.  
Location: 230 FLO (Griffin-Floyd Hall)

Instructor: Dr. Brett Presnell

Office: 220 FLO  
E-mail: presnell@stat.ufl.edu

Office Hours: See instructor’s web page.  
Phone: 392-1941 Ext. 236

Web Page: http://www.stat.ufl.edu/~presnell


Course Content and Objectives

This course will cover the fundamental tools and concepts of asymptotic statistics. Topics will include limit theorems for basic sample statistics, the delta method, $U$-statistics theory, large sample theory for maximum likelihood estimation. Other topics may include M-estimation and generalized estimating equations, von Mises differentiable statistical functionals, asymptotic relative efficiency of tests, Edgeworth expansions, saddlepoint approximations, the jackknife, and the bootstrap.

Grading

Grades will be based on homework assignments to be given regularly throughout the semester.

Prerequisites

STA 6467 or permission of instructor.

Supplementary References

You may find it useful to consult any of the following books.


Guidelines for Homework and Exams
(with thanks to Ian McKeague)

1. Mathematics is prose. Each statement should be a sentence, generally with a subject, object, and verb. End an equation with a punctuation mark if it is at the end of a sentence. An $=$ sign can operate as a verb. Don’t start a sentence with notation.

2. Don’t use unnecessary words—use notation to cut down on tedious repetition.

3. Use scratch paper to do exploratory work. If you are asked to prove something for all finite $n$, special cases (e.g., $n = 1$, $n = 2$) are considered exploratory. Note: Induction can only prove a statement for finite $n$, and the case $n = \infty$ will require a separate argument.

4. The Good Samaritan Rule: when you need to use a standard result, mention its name, and not a theorem number. If the result has no name, then you should state it, at least in outline (and include a proof if it is not a standard result from class or from real analysis). Don’t assume the reader knows what you are about to do—it is often helpful to outline the steps of your solution before plunging into details.

5. For exams, start each problem on a separate sheet of paper; write your name at the top right-hand corner of the first sheet.

6. For homework problems, write out the question before giving the solution. Answer the problems in the order in which they were assigned. Staple the sheets of paper together.

7. If you introduce some notation which was not specified in the problem, you must define or specify it. A common mistake is to use an $\epsilon$ without initially saying “Let $\epsilon > 0.$”

8. Your work will generally be more readable if you use displayed equations rather than embedding long equations in the text.

9. Each step of your solution needs to be justified, either by naming a standard result, or filling in the gap by a separate argument. If you are unable to fill the gap (or do any part of the problem), say so!

10. If you are stuck on a homework problem, ask me for a hint. You have nothing to lose by asking for a hint, but you do have something to lose by handing in incomplete work.

11. You are encouraged to discuss homework problems among yourselves, but your solution must reflect your own work. Don’t copy.