STA 4322- STA 5325 Mathematical Statistics January 8, SPRING 2015

Days/Time/Room: TR 2:00 PM - 3:15 PM OSB 215

Instructor: Prof. Dr. Dr. Vic Patrangenaru

Office: 208 OSB

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Office hours: TR 1:00 PM-1:45 PM

3. Detailed Online Notes at www.stat.fsu.edu/~vic. Additional info will be given in class.

Teaching Assistant: Mingfei Qiu (ABD)

Prerequisite: STA4321 - STA 5323.

Course description: This course is designed to give students both an rigorous and logical account for Basic and Nonparametric Statistical Inference.

Upon completion of the course students should master basic concepts such as Decision Rules and Risk Functions, The Maximum Likelihood Estimator, Method of Moments, Minimax Decision Rules, Simple Hypotheses and the Neyman-Pearson Lemma, Duality Between Tests and Confidence Regions, Invariant Tests, the Two-Sample Problem and Rank Tests, The Gauss-Markov Theorem, Testing in Linear Models, Asymptotic Distribution of Sample Quantiles, Order Statistics, Asymptotic Relative Efficiency (ARE) of Estimators, Constructing Nonparametric Confidence Regions, The Cramér-

After a review on Sampling distributions from Casella and Berger, the chapters from the text partially covered are:

- Chapter 1 Introduction
- Chapter 2 Decision Theory
- Chapter 3 Introduction to General Methods of Estimation
- Chapter 5 Testing Hypotheses
- Chapter 6 Consistency and Asymptotic Distributions of Statistics
- Chapter 7 Large Sample Estimation in Parametric Models
- Chapter 8 Tests in Parametric and Nonparametric Models
- Chapter 10 Nonparametric Curve Estimation

**Attendance policy:** Active attendance adds up to 5 bonus points. If you miss classes without a formal excuse, the extracredit is lost.

**Grading:** The course grade will be calculated on the basis of hw (30%), one midterm exams (30%), and a final exam (40%) on Monday, April 27.

**Honor Code:** Students are expected to be uphold the Academic Honor Code as de-
scribed in the FSU General Bulletin or in the FSU Student Handbook.

**Disclaimer:** This syllabus provides a general plan; deviations may be necessary.