

# STAT5110: 數理統計

Fall 2010, Monday and Wednesday, 10:20-12:10

Instructor: 徐南蓉

綜合三館 801 ext 42646

[njhsu@stat.nthu.edu.tw](mailto:njhsu@stat.nthu.edu.tw)

**Textbook:** Casella and Berger (1990),  
Statistical Inference

Bickel and Doksum (2007),  
Mathematical Statistics: Basic Ideas and Selected Topics Vol. I (2<sup>nd</sup> edition)

**Grading:** homework (30%) , midterm (35%), final exam (35%)  
**No late homework accepted!**

**Teaching Assistant:** To be announced

**Office Hours:** Wed 10:00-11:00am or by appointment

## Topics Outline:

Review some statistics and probability concepts and properties	C&B chapter 1-5 B&D chapter 1
Principles of data reduction: sufficiency principle and likelihood principle	C&B chapter 6.1-6.2 B&D chapter 1
Point estimation: method of moments; estimating equations and MLE	C&B chapter 7 B&D chapter 2, chapter 3
Decision theory, Bayes rules and Bayesian analysis	C&B chapter 10 B&D chapter 1, chapter 3
Invariance principle and related topics	C&B chapter 6.3, 7.2.4
Hypothesis testing	C&B chapter 8 B&D chapter 4
Interval estimation	C&B chapter 9 B&D chapter 4
Asymptotic approximations	B&D chapter 5