STAT 411 – 18086, 19360 **Spring 2015**

Statistical Theory – Syllabus

- **Instructor:** Jing Wang

  Office: SEO 523
  Phone: (312) 996-4835
  E-Mail: jiwang12@uic.edu
  Web Page: www.math.uic.edu/∼wangjing

- **Lectures:** M W F at 10:00 - 10:50 a.m., TH 208

- **Office Hours:** Monday at 2:00 - 4:30 p.m., SEO 523

- **Textbook:** R. V. Hogg, J. W. McKean, A. T. Craig, *Introduction to Mathematical Statistics*, 7th edition, 2012

- **Dates of Exams:**

Midterm I	10 - 11 a.m., Wednesdayday, Feb. 18
Midterm II	10 - 11 a.m., Friday, March 20
Final Exam	10:30 - 12:30 p.m., Friday, May 8

- **Grading:** Homework 20%, midterms 20% each, final 40%

- **Credits Scale:** 90% A , 80% B , 65% C , below 65% D

- **Note:** No makeup exam will be given without a valid excuse. No late homeworks will be accepted for grading.

- **Important Dates:**

January 12	Monday. Instruction begins.
January 19	Martin Luther King, Jr., Day. *No classes.*
January 23	Friday. Last day to late register, last day to add a course.
February 20	Friday. Deadline for dropping courses (All colleges)
March 23–27	Spring vacation. *No classes.*
May 1	Friday. Instruction ends.
May 8	**Final Exam.**

Tentative Lecture Schedule

WEEK	SECTIONS	BRIEF DESCRIPTION
01/12 - 01/16	4.1; 4.2	Sampling; Confidence Interval
01/19 - 01/23	Holiday; 4.4; 4.5	Order Statistics; Hypothesis Testing;
01/26 - 01/30	4.7; 4.8	Chi-square Test; Monte Carlo; Maximum Likelihood Estimation
02/02 - 02/06	6.1; 6.2	Rao-Cramér Lower Bound and Efficiency
02/09 - 02/13	6.3; 6.4; 6.5	Maximum Likelihood Tests; Multiparameter Case: Estimation & Testing
02/16 - 02/20	Review; **Midterm-I**; 7.1	Measures of Quality of Estimators
02/23 - 02/27	7.1; 7.2	Sufficient Statistic;
03/02 - 03/06	7.2; 7.3; 7.4	Properties of Sufficient Statistic; Completeness and Uniqueness;
03/09 - 03/13	7.5; 7.7	Exponential Class of Distributions; Case of Several Parameters;
03/16 - 03/20	7.7; Review; **Midterm-II**;	Minimal Sufficiency and Ancillary Statistics;
		Sufficiency, Completeness and Independence
03/23 - 03/27	Spring Break	No classes.
03/30 - 04/03	7.8; 7.9; 8.1;	Most Powerful Tests; Uniformly Most Powerful Tests
04/06 - 04/10	8.2	Uniformly Most Powerful Tests;
04/13 - 04/17	8.3	Likelihood Ratio Tests;
04/20 - 04/24	8.3; 9.1; 9.2	Inference about Normal Models;
04/27 - 05/01	9.5; Final Review	Inference about Normal Models;
05/04 - 05/08	Final Week	Final Exams.

The instructor reserves the right to make any changes in the course she determines academically advisable. Changes will be announced in class. It is your responsibility to keep up with any changed policies.