University of North Texas, College of Engineering
Department of Electrical Engineering

EENG 5620: Statistical Signal Processing

Fall 2018
Monday and Wednesday, 10:00 - 11:20 AM
Classroom: B227

Instructor

• Dr. X. Li, Office: NTRP B231,
  Phone: (940) 891-6875, Email: Xinrong.Li@UNT.EDU
  Office Hours: Tuesday and Wednesday, 1:30 PM - 2:30 PM
  (additional appointments may be requested by email)

Textbook and References

  Author: Steven M. Kay, Publisher: Prentice Hall
  Author: Steven M. Kay, Publisher: Prentice Hall
• Detection and Estimation Theory and Its Applications, 2006 (Reference)
  Author: Thomas A. Schonhoff, Arthur A. Giordano, Publisher: Pearson Education, Inc.

Prerequisites

• EENG 2620 and MATH 3680 or equivalent

Course Objectives

• Basic estimation theories of statistical signal processing;
• Analysis and design of statistical signal processing techniques and systems.

General Policies

• Class attendance is mandatory.
• Copying other's homework is a violation of academic honesty, which will be penalized.
• Phones should be kept in silent mode during the class.
• Do not wait until the last minute if you have trouble with this class.
• Visit http://www.unt.edu/csrr for your rights and responsibilities.

Disability Accommodation

• The University of North Texas (UNT) complies with Section 504 of the 1973 Rehabilitation Act and
  with the Americans with Disabilities Act of 1990. UNT provides academic adjustments and auxiliary
  aids to individuals with disabilities, as defined under the law. Among other things, this legislation
  requires that all students with disabilities be guaranteed a learning environment that provides for
  reasonable accommodation of their disabilities. If you believe you have a disability requiring
  accommodation, please see the instructor and/or contact the Office of Disability Accommodation
  (http://www.unt.edu/oda) at 940-565-4323 during the first week of class. It is the responsibility of
students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office.

Assignments and Exams
- No late assignments will be accepted and no emailed assignments will be accepted, except in extenuating circumstances. Homework is due before the class in the following week.
- There will be one final exam and one final project. The exam will be based on text readings, handouts, class exercises, class lectures and discussions, and homework assignments. Students are responsible for all text material, regardless of whether we review the text material in class or not. If you know in advance that you will miss the exam, you must contact instructor before the scheduled exam.

Grading Policies
- Homework, 30%
- Project, 30%
- Exam, 40%
- There will be no extra credits.
- Final accumulated number score is on a 100 point scale.
- Final letter grade distribution: A=90-100, B=80-89, C=70-79, D=60-69, F=0-59

Course Outline
You can find the lecture notes and homework assignments in the Blackboard Learn.
2. Minimum Variance Unbiased (MVU) Estimation
3. Cramer-Rao Bound (CRB)
4. Linear Models and Best Linear Unbiased Estimators (BLUE)
5. Maximum Likelihood (ML) Estimation
7. Bayesian Estimation
8. Final Project Report Due, Monday, Dec. 3 (pre-finals week)
9. Final Exam, 8:00 – 10:00 AM, Wednesday, Dec. 12 (finals week)

Useful Links
- UNT Catalogs: http://www.unt.edu/catalog/ (catalogs, academic calendars, class schedule)
- Office of the Registrar: http://essc.unt.edu/registrar/ (schedule of classes and exams, etc.)
- Eagle Student Services Center: http://essc.unt.edu/
- Blackboard Learn: https://learn.unt.edu/ (course syllabus, notes, assignments)

Last updated: 08/26/2018