EEL 6533  Statistical Decision Theory

1. Catalog Description Hypothesis testing of signals in the presence of noise by Bayes, Neyman-Pearson, minimax criteria; estimation of signal parameters. 3 credits.

2. Pre-requisites and Co-requisites EEL 5544 or equivalent.

3. Course Objectives To gain fundamental knowledge in detection of signals and estimation of signal parameters.

4. Contribution of course to meeting the professional component N/A.

5. Relationship of course to program outcomes: N/A.

6. Instructor Professor Jian Li
   a. Office location: 465 EB
   b. Telephone: 392-2642
   c. E-mail address: li@dsp.ufl.edu
   d. Web site: www.sal.ufl.edu
   e. Office hours: 1.5 periods on Tue and Thurs before classes.

7. Teaching Assistant N/A.
   a. Office location
   b. Telephone
   c. E-mail address
   d. Office hours

8. Meeting Times Tue, 10, and Thurs, 10-11.

9. Class/laboratory schedule 3 lectures each week

10. Meeting Location 239 LAR

11. Material and Supply Fees N/A

12. Textbooks and Software Required
    a. Title: An Introduction to Signal Detection and Estimation
    b. Author: H. Vincent Poor
    d. ISBN number: 0-387-94173-8

13. Recommended Reading
    a. Title: Detection, Estimation, and Modulation Theory
    b. Author: Harry L. Van Trees
    c. Publication date and edition: 1968
14. **Course Outline** (provide topics covered by week or by class period)
   a. Review of probability and random processes, Week 1
   b. Hypothesis testing, Weeks 2 – 4
   c. Signal detection, Weeks 5 – 7
   d. Random parameter estimation, Weeks 8 – 10
   e. Nonrandom parameter estimation, Weeks 11-13
   f. Applications, Weeks 14-15

15. **Attendance and Expectations** Attendance required, cell phones must be turned off.

16. **Grading** Homework 30%, project(s) 40%, exam(s) 30%.

17. **Grading Scale** Tentative: 90-100 A, 85-89 B+, 80-84 B, etc.

18. In order to graduate, graduate students must have an overall GPA and an upper-division GPA of 3.0 or better (B or better). Note: a B- average is equivalent to a GPA of 2.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit:

   [http://gradschool.ufl.edu/catalog/current-catalog/catalog-general-regulations.html#grades](http://gradschool.ufl.edu/catalog/current-catalog/catalog-general-regulations.html#grades)

19. **Make-up Exam Policy** TBD.

20. **Honesty Policy** – All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

21. **Accommodation for Students with Disabilities** – Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

22. **UF Counseling Services** –Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
   - UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
   - Career Resource Center, Reitz Union, 392-1601, career and job search services.
23. **Software Use** – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.