STATISTICS 890-4
Selected Topics in Statistics: Advanced Topics in Experimental Design

Spring 2006
DAY COURSE

Course Description:

This course first discusses some theoretical results that form the foundation for fractional factorial designs and other related designs, and then examines selected modern topics in the theory and practice of such designs.

Outline:

1. Regular fractional factorial designs and their construction
2. Minimum aberration and estimation capacity
3. Designs with requirement sets; designs with clear effects
4. Blocked fractional factorials; split plot designs; robust parameter design
5. Orthogonal arrays and their construction
6. Generalized resolution and minimum aberration
7. Orthogonal arrays robust to nonnegilible two-factor interactions
8. Enumeration of orthogonal arrays
9. Latin hypercube designs
10. Supersaturated designs
11. Optimality consideration
12. Hadmard matrices and balanced incomplete block designs

Grading:

Presentation – 40%
Project – 60%

Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Sck(Pd.d . Sp ngHuired of all members of the Un ivers Se consult the General Guidelines of the calendar for more details.

Revised October 2005