

Instructor: Dr. André I. Khuri
Office: 205 Griffin-Floyd Hall, Tele: 392-1941, ext 238.
Office Hours: Monday, Wednesday, 9:30-10-45 AM (2nd Period)
WEB Home Page: <http://www.stat.ufl.edu/~ufakhuri/>
Prerequisites: STA 6166, or equivalent.

Catalog Description

Analysis of factorial experiments, random and mixed models, rules for deriving expected mean squares in the balanced case, repeated measures. Analysis of nested and split-plot designs. Balanced incomplete block design. Analysis of Covariance. Categorical data analysis.

Topics Listing

1. Review of the Contrast Procedure
 - Test of polynomial effects of a quantitative factor.
2. Factorial Experiments
 - Analysis of fixed-effects two-way models.
 - What to do when the interaction effect is significant.
 - Random and mixed-effects two-way models.
 - Analysis of fixed-effects three-way models.
 - The use of PROC GLM in SAS for analyzing factorial experiments.
3. Rules for Deriving Expected Mean Squares
 - Rules for expected mean squares in the balanced case.
 - Satterthwaite's procedure-approximate distribution of a linear combination of independent mean squares.
4. Nested Designs
 - The two-fold nested model.
 - The three-fold nested model.
 - Models with a combination of nested and crossed effects.
5. Repeated Measures Analysis
 - Single-factor experiments with repeated measures.
 - Two-factor experiments with repeated measures
6. Split-Plot Design
7. Incomplete Block Designs
 - Balanced incomplete block designs.
 - Comparisons of adjusted treatment means.

- The use of SAS for the analysis of incomplete block designs.
8. Analysis of Covariance
- Regression models with quantitative and qualitative variables
 - A completely randomized design with one or several covariates
9. Categorical Data Analysis
- Analysis of two-way contingency tables
 - The use of PROC FREQ in SAS

TEXTS:

1. Montgomery, D.C. Design and Analysis of Experiments, 6th Ed. J. Wiley (2005).
2. Khuri, A.I. STA 6167 Short Notes, Examples, and Exercises. Target Copy, 1412 W University Ave., Tel: 376-3826.

QUIZZES AND EXAMS:		
Exam 1 (75 minutes)	July 21	100 points
Exam 2 (75 minutes)	August 11	100 points
Quiz 1	July 12	25 points
Quiz 2	July 28	25 points
Quiz 3(make up)	August 4	25 points
Homework Assignments		50 points

NOTES

1. Each quiz lasts about 15 minutes. The total quiz score is 50. It is based on quizzes 1-2. Quiz 3 can be used to make up a missing quiz, or improve a low score on an attempted quiz. **No other make-up quizzes will be given.** Make-ups for **Exams 1 and 2** are considered only if a **Very Valid Excuse** is presented. Solutions to all exams and quizzes will be posted on the teaching assistant's (Mr. Sourish Saha) web page after they have been given.
2. Most of the assigned homework problems will be collected and graded. It is important that all homework assignments are worked out before coming to class. The experience gained by doing these assignments is indispensable to the understanding of the material. It is therefore important that solutions to the homework problems reflect your own individual effort. Solutions to all assigned problems will be posted on the teaching assistant's web page on the same day after the homework assignments have been collected. For this reason, **LATE HOMEWORKS WILL NOT BE ACCEPTED.** HW assignments are made every Friday (check the TA's web page) and collected the following Thursday.
3. **IT IS STRONGLY RECOMMENDED THAT STUDENTS ATTEND CLASSES REGULARLY. PLEASE LET ME KNOW IN ADVANCE IF YOU HAVE TO MISS A CLASS PERIOD.**

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