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Topics

Introduction
Review of Basic Statistics
Hypothesis Testing
Independent t-test -- comparison of two treatments
Paired t-test -- comparison of two treatments
Blocking & Randomization concepts
One-way ANOVA -- comparison of multiple treatments
Two-way ANOVA -- comparison of multiple treatments with blocking
Mathematical Model
Two-level factorial designs - geometric interpretation, effect calculation, identifying significant effects, mathematical model formulation
Two-level fractional factorial designs - generators, defining relation, linear combination of confounded effects, significant effects
Combining the results of fractional factorial designs
Response surfaces
Higher order designs
Regression
Response Surface Methodology
Computer Workshops
Case Studies

Other

Text: Statistical Quality Design and Control, Contemporary Concepts and Methods, Macmillan, Richard E. DeVor, T. H. “Phil” Chang, John W. Sutherland

Grade Determination:
25% Homework
15% Computer Workshops
25% Midterm Exam
35% Final

Grade Breakdown:
Class GPA - approx. 3.0
about 2/3 A’s and B’s