

## Statistics 652-Tentative Topics-Lectures

### Regression and Correlation

- A) Review of simple linear regression
- B) The general linear model, least squares estimates; statistical inference for general linear model; the ANOVA table for multiple regression
- C) Multiple and partial correlation
- D) Checking for violation of model assumptions, model selection

### Design and analysis of Experiment

- A) Review of ANOVA contrasts, multiple comparisons
- B) Randomized block design and analysis of variance
- C) Factorial experiments and analysis of variance, interactions

### Analysis of covariance

- A) Use of dummy variables in regression, relationship to analysis of variance and regression
- B) Testing for equality of slopes and for equality of adjusted treatment mean

### Random and Mixed Effect Models

- A) One Factor experiment with Random Treatment effects
- B) Mixed Effect Models
- C) Nested factors