

Model Based Statistics in Biology.

Part IV. The General Linear Model. Multiple Explanatory Variables.

Chapter 13 Multiple Factor ANOVA.

ReCap. Part I (Chapters 1,2,3,4), Part II (Ch 5, 6, 7)

ReCap Part III (Ch 9, 10, 11)

ReCap Multiple Regression (Ch 12)

13.1 Fixed Effects ANOVA (no interactive effects)

13.2 Fixed Effects ANOVA (interactive effects)

13.3 Fixed and Random Effects (Paired t-test)

13.4 Fixed and Random Effects (Randomized Block)

13.5 Fixed and Random Effects (Repeated Measures)

13.6 Nested Random Effects (Hierarchical ANOVA)

13.7 More Than Two Factors (to be written)

on chalk board

ReCap Part I (Chapters 1,2,3,4) Quantitative reasoning is based on models, including statistical analysis based on models.

ReCap Part II (Chapters 5,6,7)

Hypothesis testing uses the logic of the null hypothesis to declare a decision.

Estimation is concerned with the specific value of an unknown population parameter.

ReCap (Ch 9, 10,11) The General Linear Model with a single explanatory variable.

Regression - A line describes the relation of the response to the explanatory variable, which is on a ratio scale.

ANOVA Several means describe the relation of the response to the explanatory variable, which is on a nominal scale.

ReCap (Ch 9, 10,11) The General Linear Model with a single explanatory variable.

Regression - A line describes the relation of the response to the explanatory variable, which is on a ratio scale.

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ReCap (Ch 12) GLM with more than one regression variable

Examples of multiple regression.

Today: Multiple explanatory variables that are categorical.