

A Second Course in Statistics

Jeffrey A Witmer
Oberlin College
Oberlin, Ohio, United States
Jeff.Witmer@oberlin.edu

The typical introductory statistics course at the tertiary level covers one-sample and two-sample inference and ends with regression or perhaps one-way ANOVA. Although a bit of modeling appears in the regression and ANOVA units, the typical introductory course does not have modeling as a unifying theme. My colleagues and I have developed a second course in statistics (and have written a book for that course) that is built around the idea of statistical modeling (“data = model + error”). Our course begins with a review of simple linear regression and continues through two-way ANOVA and multiple logistic regression. We use R to create graphs, to fit models, and to make traditional, normal-theory based inferences. We also use computing power to conduct randomization tests and to create bootstrap intervals.

Keywords: Modeling, regression