EDF6937-0001 Educational Data Analysis

Prerequisite: EDF 5401

This course provides students with practice in applying linear and generalized linear models to educational data sets. The focus is not on specific methods, but rather on identifying which methods are appropriate for a given data sets, interpreting the results and writing up reports summarizing the results.

At the end of the course, the student will be able to:

* Identify situations in which a particular (generalized) linear model is appropriate to answer a given research question with a given data set.
* Perform common data analyses operations with (generalized) linear models in the R programming language.
* Interpret the results of (generalized) linear models in terms of the original research questions.
* Construct graphical displays (figures and tables) which summarize the results of a data analysis.
* Identify situations in which transforming the variables in the data set before analysis is appropriate.
* Interpret the results of analyses with transformed variables.
* Employ common diagnostic statistics and plots to identify and correct difficulties with (generalized) linear models.
* Simulate data from a (generalized) linear model.
* Produce statistical graphics to explain key results of (generalized) linear models.
* Write up the results of statistical analyses in a form suitable for the results section of a scientific journal article