Center for Clinical and Translational Science
Education Resources

CTSC 5610
Introductory Statistical Methods II

Faculty: Felicity T. Enders, Ph.D.
Credits: 3
Quarter: Fall
Prerequisites: CTSC 5600 and 5601
This course is required for the CTS Postdoctoral Master's Degree program.

Overview
This course provides an introduction to methods for statistical modeling and introduces some extensions of these methods such as logistic regression and Cox regression. Specific topics covered include simple linear regression and multiple linear regressions. General concepts taught include graphical methods, descriptive statistics, and statistical inference. Particular attention is given to verification of model assumptions, interpretation, and generalization of results. The course is a combination of lectures and labs; assignments require the use of statistical software (JMP).

Additionally, it provides a broad overview of basic statistical regression methods, especially the underlying concepts, reasoning, and methods of linear models.

Objectives
At the end of this course, you will be able to:

- Correctly utilize and interpret continuous, binary, and categorical predictor variables in linear regression;
- Assess a covariate as either a predictor or as a confounder or effect modifier of another variable's association with the outcome;
- Describe and verify the assumptions underlying linear regression; and
- Determine when to use and correctly interpret continuous, binary, and categorical predictor variables in logistic and Cox regression.

Evaluation
The final grade for this course will be based on student participation during lecture discussion and computer lab sessions, homework assignments based on the computer lab sessions, a midterm exam, and a comprehensive final exam.

Students are expected spend approximately six to eight hours per week on this 3-credit course.

Additional online modules related to this topic are available on the Continuous Professional Development website.

For specific dates and times this course is provided, please see the quarterly detailed course schedule.