UNCG Quantitative Methodology Series—Summer 2015
May 19 and 21

Co-Sponsored by:
Statistical Consulting Center, Department of Mathematics and Statistics
Office of Assessment, Evaluation and Research Services, Department of Educational Research Methodology

Tuesday, May 19

9:00am-12:30pm--Data Cleansing and Manipulation

The well-known American statistician John Tukey is reported to have said that an approximate answer to the right question is better than a precise answer to the wrong question. While it is certainly important to know what question you are answering in a statistical analysis, it is also just as important that you use good data to answer your question. This workshop will cover techniques for finding erroneously entered raw data and recoding/reformatting data so it can be used in statistical procedures. Instruction will include advanced use of Microsoft Excel and introductions to using SAS and SPSS for these tasks.

Prerequisites: Familiarity with Microsoft Excel or a similar spreadsheet application.

Instructor: Mark Dixon, UNCG Information Technology Services.

1:30pm-5:00pm--Introduction to R for Data Analysis.

Hands-on introduction to using the R language for statistical analysis for those with little or no experience. Topics will include
- R interfaces
- Installing packages
- Introduction to R syntax
- Reading data
- Data manipulation
- Creating summary statistics
- Simple plots
- Basic statistical analysis

Prerequisites: No previous experience using R is required. Participants must have a laptop with wireless internet access, able to install and run the R program.

Instructor: Scott Richter, UNCG Statistical Consulting Center.

Thursday, May 21

9:00am-5:00pm--Regression Analysis.
Designed to deepen and expand understanding of linear regression modeling. The workshop will cover the basics of simple and multiple linear regression, with emphasis on topics commonly encountered in research, including

- types research questions for which regression models are likely provide useful information
- model assumptions—their implications and ramifications of violations
- determining the validity of a model
- interpretation of regression parameters, especially
    - in multiple predictor models
    - after transformation
    - in models including interactions
- tests of subsets of regression parameters
- variable selection and model building, contrasted with model and parameter testing.

Emphasis will be on practical issues to help researchers better apply regression analysis to address their research questions and better understand and report their results.

Prerequisites: Familiarity with material typically covered in an introductory statistics course, including graphical displays, mean and standard deviation, normal distributions, t-tests and confidence intervals and simple linear regression.

Instructor: Scott Richter, UNCG Statistical Consulting Center.

Registration.
Navigate to https://workshops.uncg.edu/workshops-by-category.jsp?cat_id=77003014 to register.

Instructors

Mark Dixon is UNCG/ITS Campus Consultant for Data Analysis Applications and Survey Software. He is a SAS Certified Base Programmer and has also used SPSS for 15 years.

Scott Richter is Professor in the Department of Mathematics and Statistics and Director of the UNCG Statistical Consulting Center. He teaches undergraduate and graduate level courses in statistical methodology, and consults extensively with researchers across campus.