

MAT 500: Statistical Analysis with R

Instructors

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Lab Instructor: B. Cortese bcortese@syr.edu
Class Hours May 13, 2013-May 17, 2013, 8 a.m.-5 p.m.

Course Description: This course covers statistical methods and their applications with free software R. We will start with a review of probability distributions and exploratory data analysis. Then we will cover one/two sample inferences for mean(s) and proportion(s), chi-square analysis of counts, analysis of variance, and simple linear regression. We will also cover some beyond basic but frequently used statistical methods. More specifically, students will learn about multiple regression, logistic regression, and selected topics in general linear model, and multivariate analysis if time permits. Students will work in the lab each day analyzing data using R and the methods covered in lecture.

Textbook:

- Introductory Statistics with R, 2nd edition, Peter Dalgaard, Springer. (PD)

References:

- Introduction to the Practice of Statistics, 7th edition, D.S. Moore, G. P. McCabe, and B. A. Craig (MMC)
- Statistical Inference, 2nd edition, G. Casella and R. L. Berger (CB)
- R in Action, R. I. Kabacoff (RK)
- An Introduction to Statistical Methods and Data Analysis, 6th edition, R. Lyman Ott and Michael T. Longnecker, Brooks/Cole
- Modern Applied Statistics with S, 4th edition, W. Venables and B. Ripley, Springer
- The R Book, 2nd edition, M. J. Crawley

Prerequisite: Course work in introductory probability and statistics would be helpful although not required.

Assignments: There will be a data analysis project for which a written report is required. The project will be assigned on the last day, and will be due in the following week.

Grade: Final project (80%), Class participation and lab activities (20%)

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call 315-443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations.

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