## MAT 750: Statistical Consulting

## **Instructor**

Professor H. Hyune-Ju Kim 304E Carnegie 443-1494, 443-1471(message) hjkim@syr.edu

Class Hours TTh 2:00 p.m.- 3:20 p.m. Office Hours T 1:00 p.m.-2:00 p.m., W 1:00 p.m.-2:00 p.m.

- <u>Course Objective</u>: The goal is to develop skills needed by a statistical consultant and to expose students to a wide range of statistical applications. Topics include data analysis, problem solving, issues in planning experiments and collecting data, report writing, and oral communication with clients.
- <u>Course Outline</u>: We will spend first several weeks to review important and frequently used statistical analyses. Then, we will go over case studies and have class discussion on actual problems, either from clients or from the instructor's database. Guest lectures are also planned on diverse topics summarizing the guests' consulting experiences.

## References:

- An Introduction to Statistical Methods and Data Analysis, 6<sup>th</sup> edition, R. Lyman Ott and Micheal T. Longnecker, Brooks/Cole
- Applied Regression Analysis, 3<sup>rd</sup> edition, N. Draper and H. Smith, Wiley
- Modern Applied Statistics with S, 4<sup>th</sup> edition, W. Venables and B. Ripley, Springer
- Applied Statistics and the SAS programming Language, 5<sup>th</sup> edition, R. Cody and J. Smith, Prentice-Hall
- Statistical Consulting, J. Cabrera and A. McDougall, Springer

<u>Prerequisite</u>: Course work in applied statistics and data analysis or consent from the instructor

<u>Assignments</u>: There will be a major data analysis project for which a written report is required. In addition, there will be a number of in-class assignments and short written reports on a variety of topics.

## **Course Schedule**

Week 1 - Week 4 : Review of t-tests, ANOVA, Regression, and Statistical packages Week 5 - Week 15 : Case studies, Guest speakers, Consulting practice sessions

- \*\* We will open Thursday classes in April for on-campus clients who make advance appointments, in addition to several one and a half hour time blocks (we will decide the time schedule by the end of the fourth week) for which students of MAT 750 will rotate to consult drop-in clients.
- \*\* Final project due: Noon, May 7 (Tuesday)

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