MAT 750: Statistical Consulting

Instructor

Professor Hyune-Ju Kim 304E Carnegie

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Class Hours TTh 8:00 a.m.-9:20 a.m.

Office Hours TTh 10:00 a.m.-11:00 a.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, 6th edition, R. Lyman Ott and Micheal T. Longnecker, Brooks/Cole
- Applied Regression Analysis, 3rd edition, N. Draper and H. Smith, Wiley
- Modern Applied Statistics with S, 4th edition, W. Venables and B. Ripley, Springer
- Applied Statistics and the SAS programming Language, 5th edition, R. Cody and J. Smith. Prentice-Hall
- Statistical Consulting, J. Cabrera and A. McDougall, Springer

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

Assignments: There will be a major data analysis project for which 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: May 9 (Monday)