

ST427: Statistical Consulting

Spring, 2019

Instructor: Annie Qu, Ph.D., Professor of Statistics

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Course information: ST427, 4 credits, meets at 2-3:20pm Tue. and Thur

Software used in class: Mainly SAS and R

Class requirements: Class participation, final presentation and written report from each team will be evaluated.

Class plans:

- At the first part of the semester: clients come in to present their projects during Jan. and Feb., consulting teams are assigned to projects, each team starts to work on its project as soon as the client presents
- It is essential to exchange contact information (email addresses and phone) right away, and to make arrangements to meet with the client and/or get data as soon as possible
- Teams will update the instructor weekly on their progress, through meeting the instructor or by email
- There will be no classes in March. But students are expected to have group meeting time during class time, work with clients and meet with the instructor or TA at least once on project progress.
- Later in the semester (Apr. and May) teams will present final reports on their projects to the class
- Each team will submit a final written report to the client and to the instructor

Guidelines for Writing Reports to Clients

- Provide a summary of data source and background of the data.
- Provide a summary of statistical methods used, including descriptive statistics, histograms, scatter plots, transformations; models developed, code written; tests of significance, confidence intervals; other analyses (e.g., principal components, factor analysis, clustering or classification methods, sample size and power calculations).
- Provide a Summary of results, including conclusions from visual and numerical summaries; statistically significant and non-significant results; estimates, standard errors, and confidence intervals; other results if relevant, e.g., the nature of principal components or factors, correlations, clustering/classification error rates, etc.
- Provide any necessary tables, graphs, plots, printouts, etc. – the details behind the summary information.

Prerequisites: Math. Stat. (510) and linear regression models (425) or consent of the Instructor.

Key reference:

- Derr, J. (2000). Statistical Consulting: A guide to effective communication. Duxbury Press.