統計諮詢(Statistical Consulting)

Fall 2025

- **Instructor:** Jack C. Yue 余清祥
- **Phone:** 8-1026 (or 2938-7695)
- **email:**csyue@nccu.edu.tw

- **Office Hour:**14:00~16:00 Tuesday, or by appointments
- **References:**
  1. Problem Solving: A Statistician's Guide
  2. My handouts and related papers from the following webpages: http://csyue.nccu.edu.tw
- **Course Objective:**

  The goal is to develop the skills needed by a statistical consultant. Emphasized topics include data analysis, problem solving, report writing, oral communication with clients, issues in planning experiments and collecting data, and practical aspects of consulting management.

- **In-class Activities:**

  Activities in class cover a broad spectrum and emphasis is especially placed on class participation. Considerable time is spent on data analysis and discussing several examples. A small number of lectures cover specific statistical topics, and most of the lecture time is on discussing report writing, oral communication (such as making your own consulting videotapes), consulting session management, and consulting philosophy. The latter part of the semester is devoted to the discussion of student consulting projects.

- **Assignments:**

  There is a mid-term data analysis problem for which written reports are required each team finishing their individual report. A final (major) project consists of an actual consulting experience for each student with a required oral presentation and written report. In addition, there are a number of short written reports and in-class discussion assignments on a variety of topics.

There include brief write-ups on more “minor” data analyses. There are some assigned readings as well as videotape viewing. The majority of the work load occurs in the first 2/3 of the course.

- **Course Schedule:**

The class materials are divided into three parts: Problem Definition, Data Analysis, and Communication. There are 6~7 regular-based homework assignments, one mid-term project, and one final project.

1. Class Introduction (Week 1)
2. Problem Definition (Weeks 2~4, Assignment 1)
3. Exploratory Data Analysis (Weeks 5~7, Assignment 2&3)
4. Mid-term Project (Week 8)
5. Confirmatory Data Analysis (Weeks 9~11, Assignment 4)
6. Research Methods and Report Writing (Weeks 12~13, Assignment 5)
7. Ethics and Presentation Skills (Weeks 14~15, Assignment 6)
8. Applications (Weeks 16)
9. Final Report (Final Week)

There is a mid-term data analysis problem for which written reports are required, with the client comes in to be interviewed in class and each student finishing his/her individual report. A final (major) project consists of an actual consulting experience for each student with a required oral presentation and written report. In addition, there are a number of short written reports and in-class discussion assignments on a variety of topics. There include brief write-ups on more “minor” data analyses. There are some assigned readings as well as videotape viewing. The majority of the work load occurs in the first 2/3 of the course.

- **Grading:**

The mid-term major data analysis counts for 20% and the final project (actual consulting with oral presentation and written report) is worth 30%. All other assignments together are 35% and participations (e.g., in-class discussions) in the class counts 15%. Improvement over the semester is viewed favorably in grading.