STAT 2381: Supervised Statistical Consulting

Spring 2021

Summary: This course serves two main purposes: it trains students in the practice of statistical consulting; and it serves the University of Pittsburgh research community for whom we provide statistical guidance. Students will learn by engaging in consulting with clients, presenting the problems and solutions for their assigned projects, and sharing experience with each other. Classes will involve instruction on general principles, students' presentations, and discussion of details that arise.

Instructor: Kehui Chen, Department of Statistics, khchen@pitt.edu.

Time and Place: Tuesday and Thursday, 1:15-2:30pm, WWPH 1809

Office Hours: Tuesday and Thursday 10:30-11:30am or by appointment

Zoom Link for Lectures and Office Hours: https://pitt.zoom.us/j/91414673527

Required Text: There is no required textbook for this class.

References:

1. Harrell, F.E., Jr. (2015) Regression Modeling Strategies, 2nd edition, New York.
2. Kauermann G, Weihs C. (2007) Statistical consulting. *Advances in Statistical Analysis*, 91, 343-347.
3. Kennett R. On the planning and design of sample surveys. *Journal of Applied Statistics*, 46, 19-34.
4. Kennett R, Thyreod P. (2006) Aspects of statistical consulting not taught by academia. *Statistica Neerlandica*, 60, 396-422.
5. Lenth RV. (2001) Some practical guidelines for effective sample size determination. *The American Statistician*, 55, 187-193.
6. Lesser ML. (1996) Guidelines for budgeting biostatistics involvement in research projects. *Statistics in Medicine*, 15, 2127-2133.

7. Pfannkuch M, Wild CJ. (2000) Statistical thinking and statistical practice: themes gleaned from professional statisticians. *Statistical Science* 15, 132-152.

8. Parker RA, Berman NG. (1998) Criteria for authorship for statistician in medical papers. *Statistics in Medicine*, 17, 2289-2299.

9. Tweedie R. (1998) Consulting: real problems, real interactions, real outcomes. *Statistical Science*, 13, 1-3.

10. Unwin A. (2007) Statistical consulting interactions: a personal view. *Advances in Statistical Analysis*, 91, 349-359.

Some useful web resources:

`http://community.amstat.org/cnsl/home`
`https://www.statslife.org.uk/careers/types-of-job/1131-statistical-consultant`
`https://kbroman.wordpress.com/2013/04/02/thoughts-on-statistical-consulting/`
`https://www.linkedin.com/pulse/why-statistical-consulting-hard-kevin-gray/`
`https://www.analyticbridge.datasciencecentral.com/group/books/forum/topics/16-books-for-statistical-consultants`

Prerequisites: Stat 2630-2640 and 2131-2132 or equivalent.

Requirements:

- Attend class and participate in discussions
- Complete consulting cases that are assigned to you.
- A case will consist of the following steps: meet the client (usually out of class); report on the initial meeting in class; follow up with client as needed, helping in various ways; write a report and present it to the class; revise the report and send it to the client after approval by the instructor.

Delivery: All course material will be posted on CANVAS (https://canvas.pitt.edu/courses/91258). The lectures will be conducted through Zoom if in-person classes become impossible.

Grade: Only a satisfactory (S) or no credit (NC) grade will be assigned for this class.

Health and Safety Statement: In the midst of this pandemic, it is extremely important that you abide by public health regulations and University of Pittsburgh health standards and guidelines. While in class, at a minimum this means that you must wear a face covering and comply with physical distancing requirements; other requirements may be added by the University during the semester. These rules have been developed to protect the health and safety of all community members. Failure to comply with these requirements will result in you not being permitted to attend class in person and could result in a Student Conduct violation. For the most up-to-date information and guidance, please visit coronavirus.pitt.edu and check your Pitt email for updates before each class.

Academic Integrity: Students in this course will be expected to comply with the University of Pittsburghs Policy on Academic Integrity. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. To learn more about Academic Integrity, visit the Academic Integrity Guide for an overview of the topic. For hands-on practice, complete the Understanding and Avoiding Plagiarism tutorial.

Diversity and Inclusion: The University of Pittsburgh does not tolerate any form of discrimination, harassment, or retaliation based on disability, race, color, religion, national origin, ancestry, genetic information, marital status, familial status, sex, age, sexual orientation, veteran status or gender identity or other factors as stated in the Universitys Title IX policy. The University is committed to taking prompt action to end a hostile environment

that interferes with the Universitys mission. For more information about policies, procedures, and practices, see: http://diversity.pitt.edu/affirmative-action/policies-procedures-and-practices.

Disability: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services (DRS), 140 William Pitt Union, (412) 648-7890, drsrecep@pitt.edu, (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

New Statement: This course covers topics and materials that may be viewed as politically sensitive in some contexts. Please review the material carefully. If there are particular topics or readings that concern you, please contact your instructor immediately.