UPP 503 - Code No. 22637
Data Analysis for Planning and Management

Time: Tuesdays, 6 - 9 pm
Class Room: 2236 2ADH

Instructor: Kazuya Kawamura Office: 234 CUPPA HALL
E-mail: Kazuya@uic.edu Phone: (312) 413-1269
Office Hour: Tuesdays from 12 noon to 1 pm
Note: I will not see any students on Wednesdays

Course Description

This course introduces students to data analysis techniques most commonly used in urban planning. Topics to be covered include: presentation of data, measure of central tendency and dispersion, probability concepts, sampling, hypothesis testing and confidence intervals, analysis of categorical variables, and linear regression. Students will also learn to use the statistical computer package to clean, manage, and analyze data.

Note: If you have taken a statistics course in the last five years, please talk to me or Dr. Bhatta. We may suggest waiving this course.

Prerequisites

Ability to read and understand graphs and basic equations.
Willingness to dedicate 6 or more hours per week for homework assignments and other necessary tasks outside the classroom.

Text

Alan Agresti and Barbara Finley. *Statistical Methods for the Social Sciences, Third Edition*. Prentice Hall, 1997 (required) ISBN: 0-13-526526-6

Note: This is an expensive book. I suggest looking for a used copy on the Internet first.

Additional handouts will be given to supplement the text when necessary.

Blackboard CourseInfo

CourseInfo is basically a Web site dedicated to this course. I will post assignments, answers, grades, and announcements on the Blackboard CourseInfo.

Communication

Often, I will use the e-mail feature of CourseInfo to make important announcements regarding assignments and exams. To be included in the CourseInfo e-mail list, you must obtain an UIC e-mail account (with "uic.edu" domain) or if you are using an off-site account work with the ACCC to set it up as your UIC account before the first day of the class.

Requirements

•The course will be taught using a lecture format with a midterm and final exams, homework assignments, and computer assignments. Grades will be determined by:

Midterm (20%)

Final (35%)
Homework (10%) – The lowest grade will be dropped
Computer Assignments (25% - 2 submittals)
Attendance and class participation (10%)

•You are encouraged to form study groups; however, assignments must be completed and submitted individually.

•Each week, I will collect homework about 15 minutes into the lecture. After that, submittals **will not be accepted for any reason.** If you have to miss a class, submit the assignment in my mailbox **before** (not during) the class time.

• The homework submittals, except for the computer assignments, do not have to be typed, but must be neat and professional, or they may not be graded.

•You will need a hand calculator with a square root function. Even though other functions such as memory and power functions may be helpful, your first priority for choosing a calculator should be the ease of use. Bring the calculator to the exams.

• Please turn off the cell phones before entering the classroom.

• I am strict about attendance. If you miss 3 or more lectures, you will receive no 0 point for the "attendance and participation".

Study Habits
Just like sports, mathematics is learned through practice and repetition. In fact, there is some evidence to suggest that some very smart people have trouble with mathematics in school because it is the first subject where natural intelligence is not enough. In this course, you are expected to spend five to ten hours every week to "practice" statistics.

I have seen two common mistakes that prevent students to do well in this course. The first is that they try to digest everything by reading textbooks. In this course, you will need to read the textbook and also do the problems to practice the concept you learn from reading. Reading the textbook for hours until you completely understand the content before doing problems will not help you do well in this course. You should combine reading and doing the problems. Many concepts in statistics are unintuitive, and are difficult to understand without concrete example in front of you. I have chosen this textbook mainly because it contains a lot of good examples. They should provide "recipes" you can use to solve problems. I will also provide plenty of examples in the class. The key for doing well in this course is to use the problems and reading assignments in combination to help you understand the concepts.

The second common mistake is to fall behind by procrastinating. You will find this course to be relatively easy (although time consuming) as long as you stay on top of the materials presented each week. However, once you fall off the pace, it will be difficult, if not impossible, to catch up. If you have a problem keeping up with the course, please talk to me or TA before it is too late. Personal attention is a luxury we can provide at graduate level and we are here to help.

Tentative Schedule

Date	Topic	Reading
1/16	Introduction, Sampling and Measurement	Ch. 1, 2
1/23	Math review	Hand out
1/30	Tables and graphs, SPSS	Ch. 3.1, 3.2
2/6	Measures of central tendency and variation	Ch. 3.3, 3.4, 3.5, 3.6
2/13	Probability and sampling distributions	Ch. 4.1, 4.2, 4.3
2/20	Probability and sampling distributions (cont.)	Ch. 4.4, 4.5
2/27	Confidence intervals, sample size requirement	Ch. 5.1, 5.2, 5.3, 5.4, 5.6
3/6	Wrap up Ch. 5, midterm exam	
3/13	Hypothesis testing (part 1)	Ch. 6.1, 6.2
3/20	Hypothesis testing (part 2)	Ch. 6.3, 6.4
3/27	Spring break!	
4/3	Comparison of two groups	Ch. 7.1 – 7.4
4/10	Analyzing categorical variables	Ch. 8.1, 8.2, 8.3, 8.4
4/17	Analyzing categorical variables, Logic of inquiry	Ch. 8.5, 8.6, 8.8, Handout, Ch. 10
4/24	Linear regression	Ch. 9.1 – 9.4
5/1	Inference, multiple regression	Ch. 9.5 – 9.7, Ch. 11

Computer assignment 1 due 3/23 (Fri) @ 5 pm (tentative)
Computer assignment 2 due 5/1 (Tue) in class (tentative)
Final Exam: TBA