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Class meets on Tuesday Evenings from 6:30pm until 9:10pm in the Art/Sociology Building, room 2309.

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## **Purpose**

This introductory course in statistics has three main purposes. First, obviously, we will cover some basic material in statistics. This information is useful in a number of ways, not least of which, it can be applied to a variety of sociological research problems and fosters a better understanding of theories of scientific methods. The second main objective is to prepare you for the next course in statistics and for using advanced statistical texts. Third, in addition to any statistics you learn, we will also focus on using computers to solve statistical problems using SAS. Related to this, I hope you learn skills to help you in other classes and later as a professional (e.g. word processing, spreadsheets, electronic mail, ftp, and others as time permits).

This course requires a great deal of work and commitment. There are usually a large number of homework assignments and at least two examinations. Do not fall behind in the work or the material since knowledge of statistics is cumulative.

## Required Text

Blalock, Hubert M., Jr. 1979. *Social Statistics*. New York: McGraw-Hill.

SAS Institute, Select Text, *Selected SAS Documentation for SOCY/SURV601: Multivariate Statistics (Fall 1999)*.

## Recommended Texts

Neter, John, Michael H. Kutner, Christopher J. Nachtsheim, and William Wasserman. 1996. *Applied Linear Regression Models, Third Edition*. Boston: Irwin.

SAS Institute, Select Text, *Selected SAS Documentation for SOCY398C/699C: Statistical Programming in SAS (Fall 1999)*. Old copies may be available in the Sociology Department.

Delwiche, Lora D. and Susan J. Slaughter. 199X. *The Little SAS Book: A Primer*. Cary, NC: SAS Institute.

Cody, Ronald P. and Jeffrey K. Smith. 1991. *Applied Statistics and the SAS Programming Language*. New York: North-Holland.

SAS Institute Inc. 1990. *SAS Language: Reference Version 6, First Edition*. Cary, NC: SAS Institute.

SAS Institute Inc. 1990. *SAS Procedures Guide: Version 6, Third Edition*. Cary, NC: SAS Institute.

Most of the reading for the course comes from the Blalock book which, for a statistics text, is immensely readable. The Neter *et al.* book will probably be used in [SOCY602](#) taught in the spring semester. The SAS manuals will help doing the portion of your home work that is done on the computer. All of these books are intended as reference books. That is, you will use them later in your career. Behind every competent quantitative researcher is a good set of reference books and SAS manuals!

# Outline of the Topics

Introduction to Statistics, Levels of Measurement and Nominal Scales	[1-3 & Appendix 1] {A.663}
Introduction to Statistics, Levels of Measurement	[1-3 & Appendix 1] {A.663}
Frequency Distributions, Central Tendency	[4-5]
Dispersion and the Normal Distribution	[6-7] {A.665, 669-670}
Hypothesis Testing	[8] {A.671-682}
Probability	[9] {A.664-667}
Binomial Distribution	[10]
Single Sample Test of Means	[11] {A.673-676}
Point and Interval Estimation	[12] {A.673-676}
Two-Sample Difference of Means Test	[13] {A.673-676}
Analysis of Variance	[16] {2.69-76}
Correlation and Regression	[17] {1.3-35; 2.44-61; A.667}

Chapters to be read in Blalock are enclosed in brackets (e.g. [3] means read all of chapter three). Readings in Neter, et al. are enclosed in curly brackets (e.g. {2.23-52} means read chapter two, pages 23 through 52).

## Course Evaluation

There will probably be two or three examinations in the course. Typically, examinations will be short answer work problems. Additionally, there are a number of homework assignments. The assigned weights are:

Examinations	40%
Final Examination	40%
Homework	20%

Each homework question will be graded on four implicit dimensions: (1) formulation of the problem, how well you set up the problem; (2) thoroughness with which the question is answered; (3) correctness of the answer; (4) communication of the answer. As a guide, these are weighted as follows:

Formulation	8%
Thoroughness	20%
Correctness	40%
Communication	32%

The homework assignments provide an opportunity to practice the concepts learned in class and from the book. They also give you an opportunity to showoff how good you are with statistics! Most of the homework assignments will require you to use SAS. Neatly handwritten

work is acceptable, but typed work is preferred. Use this class as an opportunity to learn how to use the equation editors available in the major word processing software packages. Feel free to cut and paste (or copy by hand) relevant portions of your computer output into your final homework paper. Do not ask us to "see p. 587 of the attached output for the answer." We won't look and you won't get any credit. Assignments and examinations should be neat and clear. Further, they should also be free of spelling, punctuation and grammatical errors. Please, turn in copies of your homework, not the originals (keep photocopies or computer file copies for yourself).

Homework must be turned in on time as specified in class or by electronic mail from me or the teaching assistants for full credit. Late work will only be considered for full credit if arrangements are made with me well before the due date. Otherwise, there will be a per day penalty for late work. Obviously, examinations cannot be missed.

Unless you can demonstrate that near catastrophic events have occurred in your life, grades of "incomplete" will not be given for SOCY/SURV601.

## Miscellaneous

### Students with Documented Disabilities

If you have need for reasonable academic accommodation by virtue of a documented disability, please contact me as soon as possible to discuss your needs. Students with documented needs for such accommodation are required to meet the same performance standards for this class as all students. Accommodations may be made in terms of how such achievement is demonstrated. Without documentation, students may not receive accommodation for a disability.

### Students Requiring Religious Accommodation

If you need academic accommodation by virtue of your religion (e.g. missing a class, rescheduling an examination), please see me as soon as possible to discuss your needs.

## How to Approach the Course

Coming into this course I assume that you have already completed a relatively rigorous statistics course. While I will cover the early chapters of Blalock in class, I also assume that you are comfortable with all the material in chapters one through eight and that you have been exposed to most of the material in chapters eleven through thirteen, fifteen, and basic issues of correlation. If this is not the case, please see me immediately to discuss your situation.

As you can see from the syllabus this can be a difficult course. Contrary to what you may think, it is not difficult because of the material content, but rather the sheer amount of information and skills that need to be mastered. From the outset I suggest that you cannot spend too much time preparing for this class. When in doubt, reread a chapter, redo homework, seek extra help from the teaching assistant and myself, and so forth. Do not let the work slide. Most importantly, READ THE BOOK! Learning statistics is a cumulative process where missing some critical concept early on can put your understanding in jeopardy later.

The teaching assistants this semester are, [Mike Danza](#) and [Zihong Sa](#). We will have office hours and will be available by appointment. We will try to answer any questions you have and help with the computer portion of the class.

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Zihong Sa [zsa@socy.umd.edu](mailto:zsa@socy.umd.edu) Art/Socy #3110 301.405.6039

In addition to taking notes in class and from the book, keep a section of notes containing questions you have. I have found that when questions arise, no matter how well you think you will remember it the following day, it will never be as clear as at that moment. So, write it down. Also, this helps to clarify exactly what you do not understand and you might be surprised at how many questions you can work out by trying to write them down. Seek help from your fellow students. To facilitate this I have set up a course electronic mail reflector—use it.

To subscribe to the “SocStat” listserv, go to [http://www.bsoslist.umd.edu/cgi-bin/lyris.pl?enter=socstat&text\\_mode=0&lang=english](http://www.bsoslist.umd.edu/cgi-bin/lyris.pl?enter=socstat&text_mode=0&lang=english) and follow the directions. In addition to discussion about statistics, this listserv is the primary mechanism that I will use to keep you informed about changes in the assignments, examinations, class meetings, and general activities. So, if you do not join the list, you will not easily receive class information.

Save all your computer output. We cannot help you debug your SAS programs without looking at the SASLOG file (or at least the SAS file). In addition, this will make a nice record of what you have done in the course that you may find useful next semester in SOCY602 and beyond. You can purchase a nice binder for computer output.

Finally, I would encourage all of you to take one credit SAS class ([SOCY699C](#)) offered this fall in the sociology department.

