Criminology 861
Research Methods II
School of Criminology, Simon Fraser University
Fall 2014 (Term 1147)
Tuesdays: 2:30pm - 5:20pm (SWH 10218)

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Office Hours: Thursdays, 2pm – 3pm; by appointment

Calendar Description:

This course covers both parametric and non-parametric statistical techniques with an emphasis on parametric analysis. Basic descriptive and inferential statistics will be covered, including univariate measures, analyses of cross classified data, correlation, t-tests, analysis of variance, regression, and related measures. Also discussed are the experimental and statistical research strategies that produce those data. The approach will be conceptual and will emphasize the strengths, weaknesses, selection and application of various statistical, experimental and quasi-experimental techniques.

Prerequisite:

I assume that any and all students enrolled in this class have solid backgrounds in the foundations of statistical analysis (Criminology 320, Criminology 860, or equivalent). I will, however, quickly go over foundation material necessary for the methods we will cover for the sake of review.

Participation:

This course is predicated on active and informed participation. Simply coming to class every week, occupying space, and warming the room is not enough. You are expected to have done the readings for each week before the class, and to be prepared to discuss them.

Course Description:

This course will address a range of parametric and non-parametric statistical techniques. The seminars will allow the instructor to present one particular statistical technique, i.e.: purposes, assumptions, type of information provided, interpretation of the results, how to conduct such analysis using a statistical software package for social sciences (SPSS). The seminar will also include a discussion on the technique using published scientific

studies, i.e.: strengths and limitations of the statistical analysis, when to use (and not to use) such technique, as well as the interpretation of the findings.

Course structure:

There is one seminar (2 hours) per week, plus one 1-hour lab.

Course evaluation:

Weekly Seminar Contributions	10%
Assignments	25%
Exam	30%
Term Paper (Due: 02 December 2014)	35%

Lecture and lab topics:

- Introduction, obtaining data, descriptive statistics, and visualization
- Simple and multiple regression
- Regression assumptions and diagnostics (multicollinearity, heteroskedasticity, autocorrelation, model specification)
- Qualitative response models (logistic/probit regression, multinomial logit/probit, ordinal logistic regression)
- Data reduction methods (principal components analysis, cluster analysis)
- Survival analysis
- Spatial statistics
- More material if time permits

Textbooks

The primary textbook material for this class will be a set of books from the "Blue Book" series written by G. David Garson. These are an excellent set of books with SPSS examples. These books are $5 for Kindle versions, but can be obtained for free by filling out a form requesting PDF copies; only two books may be requested per 48 hours.

The web page for these books, with information on the books is here:

http://statisticalassociates.com

And the list of these books is available here:

http://statisticalassociates.com/booklist.htm

You will need the following Blue Books:

Multiple Regression
- 1-21, 28-34, 40-55, 86-108

Logistic Regression, Binary & Multinomial
- 1-36, 59-88, 115-122

Factor Analysis
- Ignore anything to do with SAS

Cluster Analysis
- 1-34, 72-74

We may also cover the following material:

Ordinal Regression
Probit Regression & Response Models
Parametric Survival Analysis (Event History Analysis)
Cox Regression (Semiparametric Survival Analysis)

If you are obtaining these books for free I suggest you get them early because there is a delay in obtaining access and you can only request two books per 48 hours.

The following books are all available in Full text - Unlimited user access from SFU Library (Ignore the math, unless you are interested!):

1. Lewis-Beck, Michael. *Applied Regression: An Introduction*. Thousand Oaks, CA: Sage Publications, 1980. ISBN: 9780803914940
2. Berry, William D. and Stanley Feldman. *Multiple Regression in Practice*. Thousand Oaks, CA: Sage Publications, 1985. ISBN: 9780803920545
   - Ignore: Measurement Error, Nonlinearity and Nonadditivity
3. Pampel, Fred C. *Logistic Regression: A Primer*. Thousand Oaks, CA: Sage Publications, 2000. ISBN: 9780761920106
   - Ignore: Estimation and Model Fit, Probit Analysis
4. Aldenderfer, Mark S. and Roger K. Blashfield. *Cluster Analysis*. Thousand Oaks, CA: Sage Publications, 1984. ISBN: 9780803923768
   - Ignore: Validation Techniques, Cluster Analysis Software and the Literature on Clustering
5. Dunteman, George H. *Principal Components Analysis*. Thousand Oaks, CA: Sage Publications, 1989. ISBN: 9780803931046
   - Note: Read up to and including Uses of Principal Components in Regression Analysis
6. Ward, Michael D. amd Kristian Skrede Gleditsch. *Spatial Regression Models*. Thousand Oaks, CA: Sage Publications, 1989. ISBN: 9781412954150
   - Note: Only read the Introduction

The "Sage Little Green Books" are technical at times, but excellent resources for the material we will cover.

There may also be other required readings (books, book chapters, journal articles, etc.) available through Canvas. You are responsible to download, photocopy, or borrow these readings from the library.

ACADEMIC (DIS)HONESTY

It is your responsibility to know the policies and follow the policies. I will follow through with any acts of academic dishonesty in my classes.

ATTENTION STUDENTS WITH A DISABILITY

Please contact the Centre for Students with Disabilities, (MBC 1250 or Phone 778-782-3112) if you need or require assistance, not your individual instructors.

N.B.: Students are reminded that attendance in the first week of classes is important. However, there are no tutorials in the first week.

Assignments not submitted to the Professor/T.A. during class/office hours must be placed in the security box at the School of Criminology General Office (Saywell Hall). The box is emptied Monday to Friday at 8:30 a.m. and 3:30 p.m. only and the contents are date stamped accordingly. No other department's date stamp will apply (e.g. Library/Campus Security) and the School of Criminology is not responsible for assignments submitted any other way (e.g. slid under office doors).

E-mail policy: The School of Criminology STRONGLY DISCOURAGES the use of e-mail in lieu of office hour visits. Criminology advises its instructional staff that they are NOT required to respond to student e-mails and that students wishing to confer with them should do so in person during scheduled meeting times.

The University does NOT accept assignments by fax.

The University has formal policies regarding intellectual dishonesty and grade appeals which may be obtained from the General Office of the School of Criminology.

UNIVERSITY POLICY FORBIDS FINAL EXAMINATIONS WHILE CLASSES ARE STILL IN SESSION.