Geography 326 (2012W)
Quantitative Methods in Geography
http://courses.washington.edu/geog326/index.htm

Class Schedule: M (W) F 1130-1220 WFS 201, plus one lab section on Wed.
Instructor: Prof. Kam Wing Chan, kwchan@uw.edu, Smith 416D, Office hours: M 2-3 pm.
Teaching Assistant: Marshall Agnew, mcagnew@uw.edu, , Office hours: W F 10:30-11:20, Smith 430.

Course Outline: This is an introduction to quantitative methods in geography with a focus on, but not limited to, statistical techniques. Through this course, students will develop an understanding of basic concepts, reasoning and procedures in quantitative methods used in geography. This course also helps develop skills to present and analyze statistical data in research. These techniques are related to a broader context of geographical applications and research. Basic excel is required for completing the assignments and the mini-project.

Course Contents:
1. Describing Data
   - Levels of measurement
   - Frequencies
   - Lorenz curve, Gini, and dissimilarity index
   - Central tendencies and mean center
   - Dispersion and skewness
2. Statistical Concepts
   - Sampling
   - Elementary probability
   - Normal distribution
   - Distribution of sample means
   - Hypothesis testing
3. Finding a Relationship
   - Chi-square tests
   - Correlation analysis
   - Rank correlation
4. Comparative Tests
   - Tests concerning population means (z- and t-tests)
   - Two-sample differences of means test
5. Uses and Misuses of Statistics
   - Politics of statistics
   - Quantitative and qualitative analysis

Course Requirements:
a) This course requires class attendance, as many parts of the course are tightly organized and often built upon a preceding understanding.
b) Test 1 (25%, Feb 3) and Test 2 (30%, Mar 9). *No make-up or early tests are available except under very special circumstances beyond the control of the student.*
c) Three Assignments (total 15%)
d) One mini-research project (25%)
e) Class participation (5%)
f) *Optional* bonus oral presentation (5%), which is used to substitute the lowest assignment grade.

Notes: Assignments are due at the beginning of class or section on the due date unless otherwise specified. Students are responsible for retaining a backup copy (digital or hard) of their assignments and project.

Penalties for late submissions: Assignments and mini-project: **one percentage point** of the course grade per calendar day (including weekends)

Optional Text: McGrew. J.C. and Monroe, C.B. 2000. *An Introduction to Statistical Problem Solving in Geography*, Second Edition. McGraw Hill: New York. ISBN: 0-697-22971-8 (also on reserve in Odegaard Library)

Supplementary References

Babbie, E. 2004. *The Practice of Social Research*, NY: Wadsworth
Kitchin, R. and N. Tate, 2000. *Conducting Research into Human Geography*. Prentice Hall.
Burt, J. and G. Barber, 1996. *Elementary Statistics for Geographers*, Guilford.
Gray, S.H. 1984. *No-Frills Statistics*, Rowman & Littlefield Publishers, Inc.
Hocomb, Z.C. 2004. *Interpreting Basic Statistics* (Fourth Edition), Pyrczak Publishing.
Rogerson, P. 2006. *Statistical Methods for Geography*, (2nd ed), Sage.
Moore, David, 2010. *Essential Statistics*, Freeman and Company.