COURSE REQUIREMENTS:

1. There will be 7-8 homework assignments. These will involve computer analysis using the Statistical Package for the Social Sciences (SPSS). This work will constitute thirty percent (30%) of your course grade. It is ESSENTIAL that this work is done ON TIME, which I define as 3:00 pm on the date due, unless otherwise noted. Late papers will lose 1 point (of a possible 10) of the grade per calendar day.

2. Each student will prepare two 9-12 page papers based on independent analysis of data on a topic chosen by the student. A more detailed description of this requirement will be given later.
   Paper 1 is due Thursday, October 18 at 3:00 PM. (30% of course grade)
   Paper 2 is due Friday, December 14 at 3:00 PM. (40% of course grade)
Late papers will be penalized 3 (or 4) points (of a possible 30 or 40) per calendar day. NOTE: For both Papers 1 and 2, except for catastrophic medical or grievous personal reasons, I will NOT grant extensions.

COURSE TEXTS:

Supplementary Reading: Marija J. Norusis: SPSS20.0 STATISTICAL PROCEDURES COMPANION. Pearson/Prentice Hall., 2012. (or version 19.0 or 17.0, etc.) NOTE: In the spring semester, those of you taking SC703 will have this as a required text, so you may want to consider purchasing it now.

All of the above are on reserve in O'Neill library.

Students will be able to access SPSS through apps.bc.edu from both on campus and at home. You will need an internet connection to use apps.bc.edu

Students wishing to use apps.bc.edu on their laptops on campus will have to 1) Activate their laptop through: https://activate.bc.edu:81/activate/ActivateServlet, 2) Install the Citrix client. The BC Help Center (2nd level of O'Neill Library) can help you with these tasks. (See my earlier email on this.) "Help files" on how to use apps.bc.edu can be found here:

http://www.bc.edu/content/bc/offices/help/teaching/app_server.html
Those who want SPSS on their home computer can lease SPSS for 6 or 12 months for $50-$100 at various online sites, such as www.onthehub.com/spss

Students also can access SPSS for academic use on BC owned computers, such as computers in offices and labs (e.g., McGuinn 410 or O'Neill Library).

Several other books may be of use for reference purposes and are on reserve in O’Neill:

Nancy Leech et al., SPSS FOR INTERMEDIATE STATISTICS (3rd ed.) HA32.L444
GENERAL SOCIAL SURVEYS: CUMULATIVE CODEBOOK HN29.N33
Sidney Siegel, NONPARAMETRIC STATISTICS H61 S.57
Rebecca M. Warner, APPLIED STATISTICS (Sage: 2008) HA31.35 W37

TOPICS AND READINGS

Dates are subject to change
Additional topics may be added as time allows

1. INTRODUCTION; USING SPSS (Week of Sept. 4)

Objectives: to learn some of the basics of SPSS programming; to submit an SPSS run.

Reading: Handouts as assigned or distributed; Polit, Chs. 1-2. Linneman: Chs. 1 & 2. Warner, Chs. 1-2, and 4; Norusis Guide 14.0, Cs. 1-2; Norusis Companion 16.0, Chs. 1-2 and 7

2. DESCRIPTIVE STATISTICS (Sep. 11, 18, 25)

Objectives: to be able to use, and interpret the output of, the FREQUENCIES and DESCRIPTIVE procedures in SPSS.

Topics Considered: level of measurement (nominal, ordinal, interval, ratio), histograms, measures of central tendency, measures of dispersion, percentiles, Z scores, mean, median, mode, variance, standard deviation, standard error, skewness, range, the normal distribution. Other topics as deemed appropriate.

Reading:
Polit, Chs. 3 and 5; Brief Guide” Ch. 5. Linneman: Ch. 3. Warner, Chs. 1, 2, and 4; Norusis Guide Ch. 5; Norusis Companion, Chs 3-6 and 10; Levin & Fox (L&F), Chs. 1-6 (esp. 5 and 6); Malec, Chs. 1-4
3. DIFFERENCES IN MEANS (Oct. 2, 9, 16)

Objectives: to be able to use, and interpret the output of, the **T-TEST** and **ONEWAY** procedures.

**Topics Considered:** probability; sampling distribution, samples vs populations, simple random samples vs other types of samples; the research hypothesis, the null hypothesis, directional vs nondirectional research hypotheses; alpha and the critical region; Type I vs Type II error; statistical significance vs substantive significance, sampling distribution of the mean, confidence intervals, one-tailed vs two-tailed tests; the t-test; equal (or pooled) variance estimate vs unequal (or separate) variance estimate; simple one-way analysis of variance. Other topics as deemed appropriate.

**Reading:**
- Polit, Chs. 6-7; “Brief Guide” pp. 145-148. Linneman: Ch. 5 & 6
- Warner, Chs. 3, 5 and 6; Norusis Guide Cha. 10-14; Norusis Companion, Chs. 7-9; L&F, Chs. 10 and 11; Malec, Ch. 7

**NOTE:** Paper 1 is due Tuesday, October 18 at 3:00 PM (30% of course grade). Late papers will be penalized 3 points (of a possible 30) per calendar day.

4. CROSSTABULATION & MEASURES OF ASSOCIATION (Oct. 23, 30, Nov. 6, 8)

Objectives: to be able to use, and interpret the output of, the **CROSSTABS** procedure, to understand the distinction between a measure of association and a test of significance, to understand the concept of statistical inference and the uses and misuses of tests of significance.

**Topics Considered:** measures of association (nominal measures, Chi-Square, PRE measures, ordinal measures; the elaboration paradigm (explanation, interpretation, specification, spurious relationships, suppresser variables); main and interaction effects in crosstabs tables. Other topics as deemed appropriate.

**Reading:**
- Polit, Ch. 8 (to p. 178 only); Linneman: Ch. 4
- Warner, Ch. 8 and section 10.12; Norusis Guide Ch. 17 to p. 377), 18 (pp. 400-402) and 19; Norusis Companion, Ch. 10 (also 447-451); Malec, Ch. 8, 9 (pp. 137-154), 11 (pp. 184-193); L&F, Chs. 7-9, 12, and 13 (pp. 330-354)
5. PEARSON CORRELATION COEFFICIENT, PARTIAL CORRELATION, SCATTERPLOTS, AND SIMPLE REGRESSION (Nov. 1513, 20, 27)

Nov. 22 is Thanksgiving – no class.

Objectives: to be able to use, and interpret the output of, the CORRELATIONS and PARTIAL CORR procedures.

Topics Considered: the Pearson correlation coefficient, R-square, slope, intercept, the equation for a regression line, predicted value vs actual value, standard error of estimate, use and interpretation of scattergrams, partial correlation, higher order partials. Other topics as deemed appropriate.

Reading:
- Polit, Ch. 9; Brief Guide” pp. 149-151. Linneman: Ch. 7 & 8.
- Warner, Ch. 7, 9 and 10.1-10.11, also skim Ch. 11; Norusis Guide Ch. 20; Norusis Companion Chs. 11-12 and pp. 237-254; L&F Ch. 13 (to p. 330); Malec, Ch. 9 (pp. 154-158), 10, 11 (pp. 189-192)

6. NONPARAMETRIC TESTS (Dec. 4)

Objectives: to be able to use, and interpret the output of, the NONPAR TESTS and NONPAR CORR procedures.

Topics Considered:
- Spearman’s rank correlation coefficient, Mann-Whitney test (and others as time allows).
- Other topics as deemed appropriate.

Reading: Polit, Ch. 8 (pp. 178-194); Brief Guide” pp. 152-153.

Paper 2 is due Friday, December 14 at 3:00 PM (40% of course grade). Late papers will be penalized 4 points (of a possible 40) per calendar day.

ACADEMIC INTEGRITY

It is your obligation to be fully aware of the Boston College policies on academic honesty. ANY violation may subject the offender to severe penalty, including course failure. If you are not familiar with the Boston College policy on academic honesty, see:

http://www.bc.edu/integrity