

Sociology/Nursing 300 - Research Methods
St. Francis Xavier University
2011-12

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Office hours:

Monday 10-12 & 1-3
Wednesday 11-12 & 1-3
Thursday 3:30-4

The purpose of this course is to learn how to conduct quantitative research using the Statistical Package for the social sciences (SPSS). To develop your research skills you will participate in ten computer laboratories as you work with an existing data set designed to develop your SPSS skills. You will use the skills you acquire in the labs to conduct your own survey research. You will learn how to prepare surveys, collect data and analyze the results. You will also get an introduction to statistics. You will learn about the strengths and limitations of various methods, how to conduct research and how to evaluate existing research. Learning about research methods enhances students' ability to critically appraise research and to conduct their own research.

Course Goals The main goals for this course are to be able to:

1. Read and understand academic research articles
 - Be able to find and understand quantitative research articles in your area of study in related academic journals.
 - Evaluate and discuss current research findings in your area of study
2. Set up and carry out academic research projects
 - Be able to discuss basic theories
 - Define key terms in scientific research such as hypothesis and independent variable
 - Identify appropriate data collection technique(s) for a given research problem
 - Understand ethical situations that might arise in the research process
 - Design a research project - indicating hypotheses, best data collection method, best way to analyze data
 - Conduct a group research project using surveys (and/or content analysis)
3. Do basic statistics procedures using SPSS (including picking the right test for the given problem and data)
 - Perform statistical tests on a provided dataset using SPSS (and on your own data in your group project)
 - Interpret results of statistical tests
4. Write academic research article using results of quantitative analysis
 - Write an academic research report including a literature review, methods section, statistical analysis, and complete bibliography.
 - Communicate effectively in writing and orally about quantitative research - including about statistics

Required Readings:

Winston Jackson and Norine Verberg (2007). *Methods: Doing Social Research*. (4th Edition) Prentice-Hall Canada, Inc..

Additional Material will be available on RESERVE, electronically through St. FX Library and at:
www.stfx.ca/people/dmacdona

Evaluation:

Assignments/Participation	10%
Lab Assignments	15%
December Exam	25%
Research Paper	25%
Final Exam	25%

Participation: You will be required to attend classes regularly and to do in class participation assignments. To do well in this course you will need to take class notes in addition to knowing the material from the assigned chapters and readings. While most of the material discussed in class will come from the assigned readings, I will also supplement my lectures with other relevant material.

Course Requirements

1. **Assignment 1:** Choose a relationship that you think would hold true and propose three alternative explanations for the relationship. Connect your proposed explanations to an existing social science perspective. Outline a study which would allow you to reject the various explanations? Draw relationship diagrams. **DUE: September 28. INDIVIDUAL REPORT.**
2. **Assignment 2.** A literature review will be coordinated for your group. You will be responsible for finding suitable articles for your group project and writing up a detailed review of the literature. Further instructions will be discussed in class. **DUE: November 2. INDIVIDUAL REPORT.**
3. **Assignment 3. Research Proposal/Research Ethics approval.** One of two models of research may be proposed by your group: A) Testing a theory: utilizing the replacement of terms and/or axiomatic derivations, derive a testable hypothesis which is not obvious (in common sense terms) but which, in your view, is worthy of empirical examination. B) Choose a dependent variable and propose a number of independent variables which may be influencing variation in the dependent variable. Select one of the independent variables and propose alternative explanations (either or both of intervening or sources of spuriousness variables) for the link between the independent and dependent variables. Specify the assumptions which underpin each of the proposed intervening variable explanations.

This assignment will also be used to fulfill the requirement for ethics approval for your project. An ethics approval form will be provided to each group which will be submitted for departmental approval. For the approach selected: (1) in one page introduce your topic; (2) present a detailed causal model showing all the relationships you propose to examine; (3) indicate how the major dependent variable will be measured; (4) what population would be studied; (5) what data processing techniques would be employed; (6) indicate the date when you propose to complete each part of the study. **DUE: NOVEMBER 23. GROUP REPORT** (class presentations, November 28 and 30).

4. **SPSS labs.** In addition to the above, SPSS labs are to be completed spanning both terms. These are required to enable students to complete their project analyses.
5. **Major Paper** A handout will provide detailed instructions for the preparation and submission of this paper. On the due date, submit a copy of your individual research report to the instructor and keep a copy for yourself. Details of this report will be discussed in class and with the various research groups. **DUE: March 21. INDIVIDUAL REPORT** (class presentation to be made on March 28, April 2 & 4, 2012).
6. **Examinations.** The examinations cover the assigned readings, labs, and lectures. Each exam has section containing: multiple choice questions, short-answer (definition) questions, essay questions, and SPSS questions.

First Term:

	Mondays	Wednesdays -Stats. – Chap 8 & 9
Week 1	Organization Major approaches (Chapter 1)	Introduction to Statistics
Week 2	Conceptual & operational variables; theoretical models (Ch. 2 and 12)	Descriptive statistics: proportions, percentages, ratios, rates
Week 3	Alternative research designs: Experimental (Ch. 3)	Central tendency: mode, median, mean; dispersion: range, standard deviation
Week 4	Survey designs (Ch. 4)	Normal curve, Z scores and their application
Week 5	Non-reactive/comparative (Ch. 5) Critical approaches (Ch. 7)	Contingency tables; Chi-square
Week 6	Theory testing approaches (Ch. 2) (SPSS Lab 1)	Hypothesis testing; one- and two- tailed tests
Week 7	Designing a project (Ch. 12) (SPSS: Lab 2)	Contingency tables
Week 8	Project Design (SPSS: Lab 3)	Means analysis
Week 9	Project Design (SPSS: Lab 4)	Correlation
Week 10	Project Design (SPSS: Lab 5)	Causal inference from non- experimental data
Week 11	Bias (Ch. 10)	Tests for spuriousness/ intervening variables
Week 12	Ethics (Ch. 11)	Review

COURSE PLAN: WINTER TERM

Week 1	Measurement (Ch 13) (SPSS 6)
Week 2-3	Questionnaire construction (Ch. 14) (SPSS 7) (SPSS 8)
Week 4	Causal inference from non-experimental data (Ch 17) Tests for spuriousness/Intervening variables (Ch 17) (SPSS 9)
Week 5	Sampling/Sample Size (Ch 15) (SPSS 10)
Week 6	Creating SPSS system files (Ch 16)
Week 7	Error Checking (Ch 16)
Week 8	Regression; Discriminant Analysis (Ch 17)
Week 9-10	Creating Summary Tables (Ch 18) Report Writing (Ch 18)