

CUA



THE CATHOLIC UNIVERSITY OF AMERICA

*National Catholic School of Social Service
Washington, DC 20064*

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SSS 956

Advanced Quantitative Research Methods

Spring, 2006

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I. COURSE DESCRIPTION

This course builds on the research foundation and multivariate statistics courses by extending the focus to various quantitative methods that are increasingly being used by Social Work researchers. The topics include advanced multiple regression and path analysis, logistic regression, log-linear models and multilevel modeling.

II. COURSE OBJECTIVES

1. Students will evidence proficiency in using a large data set for secondary analysis.
2. Students will demonstrate proficiency in appropriately applying the following quantitative methods;
 - a. Advanced multiple regression analysis with interaction effects;
 - b. Path analysis;
 - c. Logistic regression;

- d. Log-linear analysis for contingency tables;
 - e. Discriminant Function Analysis
3. Students will demonstrate the ability to produce a scholarly research paper using one or more of the above quantitative methods.

III. COURSE ASSIGNMENTS

1. Students will complete 5 exercises utilizing each of the quantitative methods listed above.
2. Students will produce a scholarly paper suitable for journal publication.

IV. REQUIRED TEXTBOOKS

Meyers, L.S., Gamst, G. & Guarino, A.J. (2006). *Applied Multivariate Research: Design and Interpretation*. Thousand Oaks, CA: Sage

Spicer, J. (2005). *Making Sense of Multivariate Data Analysis*. Thousand Oaks, CA: Sage

V. RECOMMENDED READINGS

Schroeder, L.D., Sjoquist, D.L. & Stephan, P.E. (1986). *Understanding Regression Analysis*. Newbury Park, CA: Sage.

Achen, C.H. (1982). *Interpreting and Using Regression*. Newbury Park, CA: Sage.

Lewis-Beck, M.S. (1980). *Applied Regression*. Newbury Park, CA: Sage.

Berry, W.D. & Feldman, S. (1985). *Multiple Regression in Practice*. Newbury Park, CA: Sage.

Pampel, F.C. (2000). *Logistic Regression*. Newbury Park, CA: Sage.

Jaccard, J. (2001). *Interaction Effects in Logistic Regression*. Newbury Park, CA: Sage.

Menard, S. (2002). *Applied Logistic Regression Analysis*. Newbury Park, CA: Sage.

Knoke, D. & Burke, P.J. (1980). *Log-Linear Models*. Newbury Park, CA: Sage.

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VI. GRADING POLICY

The University grading system will be followed (see policy in the CUA Announcements). The grades will be based on the extent to which the student meets the course objectives as demonstrated by performance on the assignments and the final paper.

Assignments	10 points each	50%
Final Paper		50%

VII. COURSE AND INSTRUCTOR EVALUATION

NCSSS requires written evaluation of all course and instructors. Forms for this purpose will be distributed at the last meeting of the class. Students are required to complete the form and submit it to the Office of the Dean.

VIII. COURSE SCHEDULE

- Class 1** Introduction to the Course
Overview of the Alcohol and Drug Services Study (ADS)
Lecturer: Dr. Shields
- Class 2** Review of Statistical Concepts and Data Screening
Lecturer: Dr. Shields
- Meyers, Gamst and Guarino pp. 1-106
Spicer pp 1-88.
- Class 3** Advanced Multiple Regression Analysis
Lecturers: Dr. Verdieck & Dr. Shields
- Meyers, Gamst and Guarino pp. 107–195
Spicer pp. 91-122
- Class 4** Applying Multiple Regression Analysis
Lecturers: Dr. Verdieck & Dr. Shields
- Meyers, Gamst and Guarino pp. 197-220
- Class 5** Path Analysis
Lecturer: Dr. Verdieck
- Meyers, Gamst and Guarino pp. 585-602

- Class 6** Logistic Regression
Lecturer: Dr. Shields
- Meyers, Gamst and Guarino pp. 221-242
Spicer pp. 123-139
- Class 7** Applying Logistic Regression
Lecturer: Dr. Shields
- Meyers, Gamst and Guarino pp. 243-254
- Class 8** Discriminant Function Analysis
Lecturer: Dr. Shields
- Meyers, Gamst and Guarino pp. 255-266
Spicer pp. 139-152
- Class 9** Applying Discriminant Function Analysis
Lecturer: Dr. Shields
- Meyers, Gamst and Guarino pp. 267-278
- Class 10** Log-linear Analysis
Lecturer: Dr. Verdick
- Spicer pp.203-220
- Class 11** Applying Log-linear Analysis
Lecturer: Dr. Verdick
- Class 12** Student Presentations
- Class 13** Student Presentations