I. Rationale

The purpose of the advanced research methods sequence is to prepare social work professionals to design and carry out research with direct implications for social work practice and social welfare policy. Both qualitative and quantitative methods can be used to build social work knowledge. Researchers choose whether to use qualitative, quantitative, or both methods depending on the research questions they seek to answer, and both types of methods have advantages and disadvantages.

This course focuses on quantitative research methodology and related inferential statistics. While creative use of technical skills is required, this course emphasizes the mastery of specific methodological and statistical knowledge and skills. The course will address the following topics: the framing of research questions; the selection of appropriate research methods and designs; the selection of appropriate statistics for data analysis; the principles of analysis; interpretation of findings; and the presentation of results. In addition, laboratory time will give each student an opportunity to learn to use statistical packages available on microcomputers and to apply the material presented to actual research problems and data.

II. Prerequisites

Research Design course (SW 978 or equivalent) or permission of instructor is required to take this course.

III. Objectives

By the end of the semester students will be able to:

1. Formulate research questions that are germane to the purposes and contexts of social work.
2. Conceptualize and operationalize research questions to develop testable hypotheses.
3. Select research designs appropriate to the questions being asked and understand the issues of validity associated with each design.
4. Select appropriate measurement instruments.
5. Develop appropriate sample designs with attention to power analysis.
6. Be fully cognizant of the ethical and diversity issues relevant to conducting quantitative research, including responsible data collection, management, and reporting.
7. Use descriptive statistics to organize and present findings and conduct exploratory data analyses.

8. Understand probability concepts and theory as related to hypothesis testing.

9. Be able to perform data analyses and appropriately communicate the results of these analyses.

10. Utilize SPSS to analyze data and to report results in an appropriate form.

11. Be an advanced consumer of social work research articles.

IV. **Primary Topics**
(These are the broad topics, and specific subtopics can be found in the “Doctoral Research Courses and Topics” matrix, attached)

1. Review ethical issues introduced in SW 978.
2. Conceptualization from concepts to variables to indicators
3. Issues of reliability and validity
4. Sampling
5. Data management, including ethical issues related to the responsible data collection, management, and reporting.
6. Statistical analysis
   a) Levels of measurement
   b) Measures of dispersion & central tendency
   c) Standardized scoring
   d) Statistical significance
   e) Theoretical sampling distributions
   f) Hypothesis testing
   g) Type1 & 2 errors,
   h) Crosstabulation/non-parametric tests
   i) T-test
   j) Z-test
   k) Anova (F-ratio)
   l) Correlation
   m) Linear regression
Linear multivariate regression