Course Description & Objectives

The purpose of this course is to provide students with a solid foundation for carrying out independent quantitative empirical research that builds the knowledge base of social work practice and social welfare policy. Principal topics covered include development of research questions, application of theory, formulation of testable hypotheses, evaluation and selection of measures, determination of sample size, selection of sampling strategies, use of intermediate and advanced experimental and quasi-experimental designs, meta-analytic techniques, cross-sectional and longitudinal survey designs, secondary analysis, and epidemiological methods.

Prerequisites

Doctoral-student standing in social work or signed permission of the instructor.

Goals and Objectives

Students will develop research questions tied to their specific interests, especially in relation to the three areas of specialization within the social work doctoral curriculum (Addiction & Behavioral Health, Applied Gerontology, and Family & Child Welfare). These questions will be used to formulate hypotheses leading to the systematic development of a research study. Students will synthesize the relevant literature, select an appropriate theoretical framework, implement a research design strategy, select a sample, and operational constructs through the selection of standardized measures. Students will learn to structure research questions clearly and to integrate the issues of validity and reliability in the selection of measurement and methods in the design of their research. They will learn about basic and intermediate sampling concepts and strategies, and they and will apply these to their own research. For the first six assignments, brief in-class presentations will be required on the session following the submission date. Since research projects and assignments will be shared and critiqued in class, students must learn to accept and adapt to constructive criticism about their research strategies and decisions. Class assignments will work towards the development of an NIH grant.
proposal (no more than 15 pages long) which will be submitted as the final paper for the course. An outline for this proposal is provided at the end of this syllabus.

Assignments

There are seven course assignments that are each linked to the development of the final research proposal. The first three assignments focus on question formulation. The next three focus on hypothesis development and the implementation of alternative research design strategies. The seventh assignment will take the form of a NIH-grant type research proposal

Course Format

While formal lectures will be planned, students are expected to actively participate in class discussions and to do the reading in advance of all sessions. Knowledge of research methods will be enhanced through hands-on participation in discussions based on the assignments that each student will be required to present throughout the semester. Grading will be based on the quality of the written work (75% total for written assignments; with the final paper worth half of the written assignment grade) as well on the overall level of participation in class discussions (25%).

Texts


The texts will be supplemented by additional readings as noted in the syllabus.

Week I: Course Overview; The Scientific Method and the Search for Causation

Required Readings:

Kerlinger and Lee, Chapter 1
Optional Reading:

Week II: Evidence Based Practice; Cultural Competence; Bias and Frames of Reference

Required Readings:
Rubin and Babbie, Chapters, 1, 2,

Week III: Formulating Research Questions and Hypotheses; Adopting Theoretical Frameworks; Political Contexts of Quantitative Social Research

Required Readings:
Rubin & Babbie, Chapters 3, 4 (pp. 92-103), 5 & 6
Kerlinger & Lee, Chapter 2

Assignment #1:
Prepare a written description of a research question that interests you. What is the question? Why is this question important to the field? What is the relevance of this question to social work theory, practice, or policy? In general, what do you know about this question and how do you know it? This question will be the basis of your final research proposal to be submitted at the end of the semester. The written description should be one-two pages (no more than two please), single spaced. Prepare a five-minute in-class presentation summarizing your description (which will be discussed in Week IV).

Week IV: Variables, Constructs, Operationalization, Measurement, & Instrumentation

Required Readings:
Kerlinger & Lee, Chapter 3
Rubin & Babbie, Chapters 7-9
some critical issues for clinicians and researchers. *Journal of Nervous and Mental Disease, 194*, 557-564.

Journal article addressing some aspect of your research question from Week III (see specifics in Assignment #2, below).

**Assignment #2:**
Find an empirical research study related to your research question that is published in a peer-reviewed journal. Briefly describe the conceptual/theoretical framework for the study (one page). Write the research question(s) and hypotheses investigated in the study. Draw a flow chart to indicate how the study constructs are related to each other. Include constructs related to the research question in the study which you think should have been included by the investigators. Be prepared to present your summary in a five-minute in-class presentation during Week V.

**Week V  Sampling, Effect Size, and Power Analysis**

**Required Readings:**
- Kerlinger & Lee, Chapter 8. 12
- Rubin & Babbie, Chapters 14, 21, 22

**Week VI: Study Design and Validity**

**Required Readings:**
- Rubin & Babbie, Chapter 10
- Shadish, Cook, and Campbell, Chapters 2-3
- Kerlinger & Lee, Chapters 18-21

**Suggested Readings (recent articles on design strength and threats to validity; students should select at least one from the list):**
Assignment 3:
Revise the research question you will be using for your research proposal. List your major concepts. Sketch out (via a diagram or flow chart) the hypothesized relationships among these concepts. Write down the hypotheses that you would predict for this research question. Describe the experimental, empirical, or theoretical justification for these hypotheses. Prepare a five-minute in-class presentation to discuss your write-up of this revised research question and hypotheses (to be discussed in Week VII).

Week VII Experimental Research

Required Readings:
Rubin and Babbie, Chapter 11
Kerlinger and Lee, Chapters 21& 24
Shadish, Cook and Campbell, Chapter 8

Suggested Readings (examples of studies using true experimental designs; students must select at least one corresponding to their area(s) of specialization):

Assignment 4:
Write a two-page review of an experimental study related to your research question. Describe the research question, study hypotheses, variables investigated in the study, and research design. Describe the major threats to validity and indicate what the investigators have done to address these threats. Prepare a five-minute summary of this review to be presented to the class (to be discussed in Week VIII).
Week VIII: Quasi-Experimental Designs

Required Readings:
Shadish, Cook & Campbell, Chapters 4 & 5
Kerlinger & Lee, Chapter 22

Suggested Readings (examples of studies using quasi-experimental designs; students must select at least one corresponding to their area(s) of specialization):

Assignment 5:
Write a two-page review of a quasi-experimental study related to your research question. Describe the research question, study hypotheses, variables investigated in the study, and research design. Describe the major threats to validity and indicate what the investigators have done to address these threats. Prepare a five-minute summary of this review to be presented to the class (to be discussed in Week IX).

Week IX: Time Series Experiments & Regression Discontinuity Designs

Required Readings:
Shadish, Cook & Campbell, Chapters 6 & 7

Suggested Readings (quasi-experimental and regression discontinuity examples; students must select at least one corresponding to their area(s) of specialization):


**Week X: Non-Experimental Quantitative Research: Secondary Data Analysis & Meta Analysis**

**Required Readings:**

**Suggested Readings** (examples of meta-analytic research; students must select at least one corresponding to their area(s) of specialization):

**Suggested Readings** (examples of secondary analytic research; students must select at least one corresponding to their area(s) of specialization):
Assignment 6:
Write a 5-7 page paper describing your research question, hypotheses, study variables, procedures used to operationalize variables, research design and sampling procedure. Prepare a five-minute summary of this paper to be presented to the class (to be presented in Week XI).

Week XI: Survey Methods Part I -- Methodological Issues in Design & Interpretation

Required Readings:
Fowler (entire book)


Week XII: Survey Methods Part II -- Epidemiological Surveys & Exploring Alternative Survey Designs

Required Readings In Epidemiology:

Suggested Readings in Alternative Survey Designs (students must select one from each design type corresponding to their area(s) of specialization):

1) Cross-Sectional Surveys

2) Trend Studies

3) Panel Studies

4) Cohort Studies
Week XIII: Practical Issues and Problems in Research Implementation

**Required Readings:**

Shadish, Cook, and Campbell, Chapters 9-10.

**Suggested Readings** (recent articles on practical issues and problems; students must select at least one from the list):

Weeks XIV and XV: Wrap-up

No new readings; students are expected to focus on the final written assignment, as described below.

Assignment 7:
Write a proposal suitable for submission to the National Institutes of Health (e.g., NIDA, NIMH, NIAAA). It should be at no more than 15 single-spaced pages (minimum 12) pages long. This proposal should be built around the research question and hypotheses that were developed and discussed in your earlier assignments. The proposal should be divided into four sections, including specific aims, background and significance, research plan, dissemination strategy. Since this is a small grant requesting limited resources the research study should be in the nature of a feasibility or pilot study. Accordingly, you need to include a final section which discusses future research plans and how they might be contingent on your findings from this study. Students will be expected to prepare a ten-minute summary of their proposal for presentation to the class on the last session. More details about each section are described below.

1) Specific Aims (approximately one page): What are the objectives of the research? What is (are) the research question(s) and the problem(s) that will be addressed? Since this is an NIH application, you need to write something about the potential impact of this research on public health and the delivery of social services.

2) Background and Significance (approximately four pages): This section provides the reviewer with a justification and rationale for the study you are proposing and explains why this work needs to be done. Succinctly review the latest empirical and conceptual research related to your question. Describe and justify the theoretical/conceptual framework that will be used in this study.

3) Research Plan (this is now typically called the “approach;” it should be ten pages maximum):
   a. Research Questions and Hypotheses: What are the specific research hypotheses you will test?
   b. Operational Definitions: Provide operational definitions of variables. Summarize what is known about the reliability and validity of your measures.
   c. Research Design: What is the general strategy you will employ in your research (e.g., experimental, quasi-experimental, non-experimental)? If the design is experimental, how will you assign subjects to conditions? If a treatment protocol is used, how will you assure that it is followed? If you are using a survey, how will the data be collected and how will you address this variable of time? Be sure to select a research plan/strategy that is capable of answering your research questions. Discuss potential threats to internal and external validity and methods for addressing them.
d. Subject Selection/Sampling: What is your plan for subject selection and/or sampling? Where possible, sample-size decisions should be based on power analysis. Describe any steps that will be taken to enhance response rate. Discuss the possible impact of your subject selection strategy on external validity. Indicate whether you expect problems with missing values in certain variables, how you will minimize this in your data-collection strategy.

e. Data Analysis: Briefly describe your plan for analyzing the data. Analyses should be directly linked to specific hypotheses and research questions. Indicate how you will deal with missing values (e.g., will some form of substitution or estimation be used and, if so, how?).

f. Dissemination Strategy and Future Directions: What will be the product(s) of this research? Describe potential manuscripts, publications, and presentations you will produce based on the work conducted in this proposal. Since this is a “small grant” submission, what will be the next steps (future proposals/data collection activities) on this project once this study is completed and the data are analyzed?

4) Literature Cited: Create a Reference section at the end of the proposal that includes full citations for all literature mentioned in the proposal. Use APA style for all listings.

Expectations

1. Students are expected to attend all class sessions. No specific point total is set aside for attendance, but consistent attendance is noted and will be considered when students’ final grades fall near cutting points.

2. Students are expected to complete all readings listed on the course outline and to come to class prepared to discuss these readings.

3. Students are expected to participate constructively in class discussions and exercises in ways that reflect their personal experience, familiarity with assigned readings, and critical thinking. As with the attendance policy above, no specific point total is set aside for class participation, but consistent involvement is noted and will be considered when students’ final grades fall near cutting points.

4. Students are expected to turn in assignments on or before the due date unless they contact the instructor in advance of the due date. Extensions may then be made available at the instructor’s discretion, but these will only be offered as a result of circumstances beyond the student’s control. Failure to comply with the above requirements will result in a grade of zero for the assignment in question.

5. When possible, students are encouraged to submit papers and other assignments as MS Word or WordPerfect documents attached to an email to the instructor.

6. The instructor cannot accept responsibility for sole copies of papers or other assignments. Students should always retain a backup copy of all written work.

7. Students’ work must be in their own words except where appropriately cited. Excerpts from other authors must be used judiciously, and direct quotes involving even a few words must include the source, date, and page number(s) and must be
indented or enclosed in quotations. Failure to comply with this requirement constitutes plagiarism and is grounds for a failing grade. For more information, please refer to university policies regarding academic misconduct (shown below).

8. Students having difficulty understanding the material or performing well on exams are expected and encouraged to contact the instructor for assistance, referral to tutoring, etc. To be fair to all class members, however, the instructor cannot offer the option of extra credit assignments.

9. Students are expected to complete all course assignments by the end of the semester. Grades of “I” (Incomplete) will not be assigned except in unusual circumstances such as a serious illness, and this must be discussed with the instructor prior to the end of the semester. For more information, please refer to university policies regarding grades of Incomplete (shown below).

10. Students are expected to contact the instructor within two weeks of receiving a grade on any assignment if they feel they have been graded unfairly. For more information, please refer to School and university policies regarding grades appeal procedures (shown below).
University Policies

The University of Wisconsin-Milwaukee has developed policies related to a variety of areas that are pertinent to the success of a students’ academic career. The Secretary of the University Web site (http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf) describes the following University policies:

1. **Students with disabilities:** The University of Wisconsin System is committed to making individuals with disabilities full participants in its compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. The Board of Regents recognizes that individuals with disabilities may need accommodations to have equally effective opportunities to participate in or benefit from the University’s programs, services and activities. For the specific policy go to http://www.uwm.edu/Dept/DSAD/SAC/SACltr.pdf

2. **Religious observances:** See: http://www.uwm.edu/Dept/SecU/acad%2Badmin_policies/S1.5htm

3. **Students called to active military duty:** See: http://www.uwm.edu/Dept/SecU/acadBadmin_policies/S40.htm

4. **Incompletes:** A notation of “incomplete” may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantiated cause beyond the student’s control, has been unable to take or complete the final examination or to complete some limited amount of term work. http://www.uwm.edu/Dept/SecU/acad%2Badmin_policies/S31.pdf

5. **Discriminatory conduct:** See: http://www.uwm.edu/Dept/SecU/acad%2Badmin_policies/S47.pdf

6. **Academic Misconduct:** Cheating on exams or plagiarism are violations of the academic honor code and carry severe sanctions, including failing a course or even suspension or dismissal from the University. http://www.uwm.edu/Dept/OSL/DOS/conduct.html

7. **Complaint procedures:** See: http://www.uwm.edu/Dept/SecU/acad%2Badmin_policies/S49.7.htm

8. **Grade Appeal procedures:** A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow the established procedures adopted by the department, college, or school in which the course resides or in case of graduate students, the Graduate School. These procedures are available from the Social Work Department Chair, Dr. Deb Padgett at the Helen Bader School of Social Welfare. http://www.uwm.edu/Dept/SecU/acad%2Badmin_policies/S28.htm (University-wide policy)