

“Making Educational and Social Systems Work for All”
-- UO College of Education Mission Statement

SPED 607 ADVANCED RESEARCH DESIGN

3 Credits – CRN [37009](#)
University of Oregon – College of Education

2010 SPRING Term Syllabus

Meeting Days/Time: **Tuesdays 4:00-6:50 pm** (1600-1850)
Location: **Lokey Education Building 119**

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COURSE DESCRIPTION AND OBJECTIVES

SPED 607 Advanced Research Design follows introductory courses in research design and statistics and is intended to provide a deeper understanding of educational research with an emphasis on principles of research designs and their use in applied research. The main topics covered in the course are research design, evidence for the validity of research, and the process of drawing inferences from research studies. Although statistical applications will undoubtedly arise in our discussions they are not the focus of this course. Emphasis in the course is on the mastery of concepts and principles, development of skills for planning and conducting research, and in the development of critical analysis skills in understanding research.

COURSE PREREQUISITES

Students should have successfully completed Introductory Research Design, Statistics I, and Statistics II.

REQUIRED MATERIALS

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin Company.

Additional readings will be assigned during the quarter.

OTHER REFERENCES AND RESOURCES:

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th Ed.). Washington, DC: Author.

- Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Chicago, IL: Rand McNally.
- Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Chicago, IL: Rand-McNally.
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of behavioral research* (4th Ed.). Orlando, FL: Harcourt Brace.
- Kirk, R. E. (1994). *Experimental design: Procedures for the behavioral sciences* (3rd Ed.). Wadsworth Publishing.
- Messick, S. (1989). Validity. In R.L. Linn (Ed.), *Educational Measurement* (3rd Ed., pp. 13-103). New York: MacMillan.
- National Research Council. (2002). *Scientific research in education*. Committee on Scientific Principles for Education Research. Shavelson, R.J., and Towne, L., Editors. Center for Education. Division of Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- National Research Council. (2004). *Implementing Randomized Field Trials in Education: Report of a Workshop*. Committee on Research in Education. L. Towne and M. Hilton, Eds. Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric Theory*. New York: McGraw-Hill, Inc.
- Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, Design, and Analysis: An Integrated Approach*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Reichardt, C. S. (2000). A typology of strategies for ruling out threats to validity. In L. Bickman (Ed.), *Research design: Donald Campbell's legacy* (Vol. 2, pp. 89-115). Thousand Oaks, CA: Sage.
- Rosenthal, R., & Rosnow, R. L. (1991). *Essentials of behavioral research: Methods and data analysis*. New York: McGraw-Hill.
- Winer, B. J., Brown, D. R., & Michels, K. M. (1991). *Statistical Principles in Experimental Design*. McGraw-Hill.

COURSE STRUCTURE AND REQUIREMENTS

SPED 607 Advanced Research Design is organized in a seminar format. The major activities consist of a combination of lectures, question and answer, and group discussions. Three research critiques and a research proposal are required as well as regular participation and discussion in the class.

RESEARCH DESIGN CRITIQUES

Three research design critiques are required. For each critique you must locate a published article in a journal in your discipline that uses one of the research designs covered in the Shadish, et al. text. A different research design must be covered in each critique. In your critique you must a) clearly and succinctly describe the design used in the article, b) describe strengths and weaknesses of this design with particular attention to internal and external validity, and c) make specific recommendations for how the study could be strengthened. You must attach a copy of the article you have critiqued. Each critique should be 4 pages or less. **The critiques are due on April 20, May 4, and May 25.** Critiques must be your own individual work.

RESEARCH DESIGN PROPOSALS

A research proposal paper is required. The proposal should be approximately 8-10 pages in length (not counting references). Ideally the proposal will serve as foundation work for actual research you plan to conduct or for a dissertation proposal. The paper must use a design covered in the text (i.e., quasi-experiment, interrupted times series, regression discontinuity, or randomized experiment). The proposal paper must include an abstract, a title page, a brief introduction including a clear statement of research hypotheses (2-3 pages), a detailed method section including sampling, procedures, instrumentation, and all other details for conducting the study, a brief results section describing planned data analyses, an estimate of statistical power, and expected results (1-2 pages), brief discussion section with an emphasis on limitations of the proposed study (1-2 pages), and references. **The proposal paper is due on June 1.** Critiques must be your own individual work. Work from another class should not be used without instructor permission.

DISCUSSION AND PARTICIPATION

Even though we have a large enrollment in this class, we will attempt to maintain a seminar format. For this to work well, your active participation will be required. We will work in groups of about six students to review, study and discuss material, and to generate designs and questions about the readings. Following this group work, all students will be asked to turn in her/his own summary of the group activities. Summaries will be graded on a pass/fail basis.

GRADING POLICY

Late work will be penalized a minimum of 10%. Work is due at the beginning of class on the due date. Each student is responsible for submitting his/her own original work. Any instance of academic dishonesty (e.g., plagiarism, collaboration) will result in a minimum of a score of zero for the assignment. Grading will be assigned on percentage of possible points, 90% and higher for an "A", 80-89% for a "B", etc. Work at the "C-" level or below is graded as an "F".

The three research critiques will count 45% of the quarter grade, the proposal paper will count 30% of the quarter grade, and 25% of the grade will be awarded based on student discussion, participation in group work, group summaries, and involvement in the class. No extra credit assignments are offered in this class.

COURSE INCOMPLETES will be offered only very rarely and in unusual circumstances that truly prevent the student from completing course work during the regular course schedule. My policy on incompletes is more restrictive than the general UO policy. Incompletes will NOT be awarded simply because you have not been able to finish course work. Incompletes will only be awarded when there is a documented medical or similar unforeseen emergency that prevents the student from completing course work.

SCHEDULE OF TOPICS AND ASSIGNMENTS (schedule may change depending on our pace)

WEEK	TOPIC	ASSIGNMENT
1 March 30	Overview of course structure; Inference, internal and external validity	Chapters 1-3
2 April 6		
3 April 13	Quasi-experimental designs	Chapters 4, 5 (No office Hours on the 16 th)
4 April 20		Research Design Critique 1 Due
5 April 27	Interrupted time series designs	Chapter 6

WEEK	TOPIC	ASSIGNMENT
6 May 4	Regression discontinuity designs	Chapter 7 Research Design Critique 2 Due
7 May 11	Randomized experiments	Chapter 8
8 May 18	Practical problems 1 and 2	Chapters 9-11
9 May 25		Research Design Critique 3 Due
10 June 1	Generalized causal inference	Chapters 12-14 Proposal Paper due
11 June 8		Discussion, Return Papers

COURSE POLICIES

ATTENDANCE POLICY

Attendance is required to succeed in this course and master the course material. If a student does miss class, it is the student's responsibility to get class notes, and handouts or other distributed materials. Contact the instructor in case of illness or emergencies that preclude completing assignments as scheduled or attending class sessions. Messages can be left on the instructor's voice mail or e-mail at any time of the day or night, prior to class. If no prior arrangements have been made before class time, the absence will be unexcused.

Because the two Eugene class sessions represent such a large proportion of class contact time, attendance in these two sessions is mandatory. Please see grading policy above for consequences of failing to attend one of these sessions.

ACADEMIC MISCONDUCT POLICY

All students are subject to the regulations stipulated in the UO Student Conduct Code (<http://www.uoregon.edu/~conduct/>). This code represents a compilation of important regulations, policies, and procedures pertaining to student life. It is intended to inform students of their rights and responsibilities during their association with this institution, and to provide general guidance for enforcing those regulations and policies essential to the educational and research missions of the University.

CONFLICT RESOLUTION

The mission of the College of Education is to "Make educational and social systems work for all." Several options, both informal and formal are available to resolve conflicts for students who believe they have been subjected to or have witnessed bias, unfairness or other improper treatment. Within the College of Education, you can contact: Joseph Stevens, Associate Dean for Academic Affairs: 346-2445, stevensj@uoregon.edu, or Surendra Subramani, Diversity coordinator 346-1473, surendra@uoregon.edu. Outside the College, you can contact: UO Bias Response Team: 346-1139 or <http://darkwing.uoregon.edu/~brt/>
 UO Conflict Resolution Services 346-0617 or <http://darkwing.uoregon.edu/~crs/>
 UO Affirmative Action and Equal Opportunity 346-3123 or <http://aaeo.uoregon.edu/>

DIVERSITY

It is the policy of the University of Oregon to support and value diversity. To do so require that we:

- Respect the dignity and essential worth of all individuals.
- Promote a culture of respect throughout the University community.
- Respect the privacy, property, and freedom of others.
- Reject bigotry, discrimination, violence, or intimidation of any kind.
- Practice personal and academic integrity and expect it from others.
- Promote the diversity of opinions, ideas and backgrounds which is the lifeblood of the university.

DOCUMENTED DISABILITY

Appropriate accommodations will be provided for students with documented disabilities. If you have a documented disability and require accommodation, arrange to meet with the course instructor within the first two weeks of the term. The documentation of your disability must come in writing from the Disability Services in the Office of Academic Advising and Student Services. Disabilities may include (but are not limited to) neurological impairment, orthopedic impairment, traumatic brain injury, visual impairment, chronic medical conditions, emotional/psychological disabilities, hearing impairment, and learning disabilities. For more information on Disability Services, please see <http://ds.uoregon.edu/>

EXPECTED CLASSROOM BEHAVIOR

Classroom expectations include:

- Participating in class activities
- Respecting the diversity of cultures, opinions, viewpoints in the classroom
- Listening to fellow students, professors, and lecturers with respect
- Arriving on time, prepared for class
- Attending for the duration of class; not reading other materials, books, newspapers
- Turn off cell phones and other electronic devices

Note. Racist, homophobic, sexist, and other disrespectful comments will not be tolerated.

GRIEVANCE

A student or group of students of the College of Education may appeal decisions or actions pertaining to admissions, programs, evaluation of performance and program retention and completion. Students who decide to file a grievance should follow the student grievance procedure, or alternative ways to file a grievance outlined in the Student Grievance Policy (<http://education.uoregon.edu/feature.htm?id=399>) or enter search: student grievance.

INCLEMENT WEATHER

In the event the university operates on a curtailed schedule or closes, UO media relations will notify the Eugene-Springfield area radio and television stations as quickly as possible. In addition, a notice regarding the university's schedule will be posted on the UO main home page (in the "News" section) at <http://www.uoregon.edu>.

If an individual class must be canceled due to inclement weather, illness, or other reason, a notice will be posted via email. During periods of inclement weather, please check your email rather than contact department personnel. Due to unsafe travel conditions, departmental staff may be limited and unable to handle the volume of calls from you and others.