EXPERIMENTAL DESIGN AND RESEARCH METHODS

Course Format

This course will focus on the process of designing, conducting, analyzing, and interpreting experiments in psychology. The issues discussed will be relevant to most domains of psychology although concrete examples will be drawn predominantly from the areas of social, developmental, and personality psychology. Emphasis will be placed on translating meaningful problems into research questions and on understanding the decisions that one must face in the course of this process. We hope to give you the skills to design your own research and to critically evaluate the research of others.

We will meet twice a week, on Tuesdays and Thursdays, from 1:15 to 3:05. Generally, the Tuesday meetings will involve lectures presenting an overview of critical issues. Thursday meetings will involve more of a focus on class discussion of related questions, readings, and class projects. For this discussion format to work effectively, everybody will need to keep up with the assigned readings and the short assignments that will be given out at the end of most classes.

Readings

There are four books at the bookstore Pelham’s *Conducting Research in Psychology* and Aronson, Ellsworth, Carlsmith, and Gonzales' *Methods of Research in Social Psychology* will be the primary texts for this course. Adams' *Conceptual Blockbusting: A Guide to Better Ideas* and Sternberg's *The Psychologist's Companion* provide useful secondary readings. A small number of additional, original research readings are noted on the Course Readings handout.

Grading

The course may be taken for a grade or Credit/No Credit. Grades will be based approximately 40-50% on the final research proposal, and 50-60% on other projects and participation in class. If you wish to take the course Credit/No Credit you must decide to do so by the university deadline.

Office Hours

My office is Room 382, in Jordan Hall. I will generally be available Tuesdays and Thursdays, or you can make an appointment with me for other times. My email address is lepper@psych, and I can be reached by phone, in emergencies, at 725-2448.
Your teaching assistant in the course is Chris Bryan. His office is Room 392, Jordan Hall, and his office hours will be Tuesdays and Thursdays from 12:10-1:10, and by appointment. His office phone is 725-4609, and his email address is cbryan@psych.

Course Outline

Week of March 28: Overview of Issues in Research

Experiments, Quasi-Experiments, and Correlational Studies
Internal and External Validity, Logic of Experimentation

Week of April 4: Basic Decisions in Designing Research

Relevance and Ethical Issues
Impact and Control in Experimental Procedures
Contrasting Models of Experiments in Psychology

Week of April 11: Choosing a Research Problem

Sources of Hypotheses
Exploratory vs. Hypothesis-Testing Research

Week of April 18: Dependent Measures

What to Measure, How, and Why
Determining Reliability and Validity

Week of April 25: Independent Variables

Designing Experimental Manipulations
Staging an Experimental Procedure

Week of May 2: Experimental Design

Setting up a Complete Experiment: Types of Experimental Designs and Control Procedures
Dealing with Problems of Bias, Demand, Deception, Debriefing

Week of May 9: Alternative Research Methods

Laboratory vs. Field Research
Basic vs. Applied Research

Week of May 16: Writing up a Research Project

The “Hourglass” Model
Presenting Data Honestly and Effectively
Stating your Case and Telling the Story

Week of May 23: Miscellaneous Topics and Student Presentations

Week of May 30: Summing up

**Course Requirements**

This is an intensive “laboratory” course, in which you will be asked to participate in a variety of projects designed to familiarize you with various aspects of research design and implementation. In addition to small weekly assignments, there will be three major projects and a mastery exam. Specific details on each of these major assignments will be passed out several weeks before they are due. A general outline of these assignments and their due dates follows. Please note that papers that have already been submitted, or are going to be submitted for, other courses will not be acceptable.

**Behavioral Observations:** Data due for class, Tuesday, April 19. Report due Wednesday, April 27.

Learning how to design, and refine, a system for sampling and coding social interactions in a natural social setting, and then using that system to test specific hypotheses.

**Research Critique:** Due Monday, May 9.

Preparing a brief critique of a well-known study in social psychology. You will have a choice of several possibilities.


Proposing an original experiment on some aspect of psychology, as if you were ready to run that experiment the following quarter, as an independent study or a senior honors project. Your proposal should involve a topic in an area that would be of interest to you and should be a study of a sort that you could imagine actually conducting. Isabelle and I will be available for continuing advice and consultation on this project.

**Mastery Exam:** Must be passed by Thursday, June 2.

Passing the course will also require completion of a mastery exam covering the material presented in the required readings from the Pelham and the Aronson, Ellsworth, Carlsmith, and Gonzales texts. This exam may be taken at any time (and as many times as necessary). This exam will not be counted in your grade, but it must be passed at a level of 80% or better before you can receive credit for this course. Sample questions will be passed out in advance.