Psychology 349: Seminar in Advanced Research Methods  
Department of Psychology  
University of Vermont  

Fall 2012  
3 Credit Hours

Thursday, 1:00 – 4:00  
John Dewey Hall 342  
Professor: Timothy R. Stickle, Ph.D.  
Office: Dewey 232  
Email: tstickle@uvm.edu  
Phone: 656-3842  
Office Hours: By appointment

Class Participation. Regular class attendance and participation are requirements for an “A” grade.

Course Structure. This is an advanced seminar. The seminar format requires that students be responsible for and lead discussion on projects and readings. For most methodological and measurement focused session, I will provide an overview and emphasize key points. In some cases, I will provide more in-depth coverage (e.g., Classical Test Theory, Item Response Theory).

The principles and methods covered will be applied to ongoing research projects (2nd year projects, grant proposals, dissertations, and so forth). Consequently, each student will be responsible for presenting the overview and design of her/his project. This course provides both a forum for and ongoing opportunity to trouble-shoot, receive design input, and to engage in direct application of measurement and methodology for developing and ongoing research.

Grading. A course grade is assigned on the basis of the average of all graded assignments. Some assignments may be ungraded, but I will provide written comments and suggestions to be applied to future assignments. Short assignments will involve written, methodological critiques about published research articles. They are described later in this syllabus.

Required Readings:

Numerous articles are also assigned. Most of them are available on the web at:
I will provide you with a login and password to gain access to these articles. **Readings as listed below.**

<table>
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<tr>
<th>Date</th>
<th>Topic and Readings</th>
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| 8/28  | **Falsifiability, Little Green Men, Science, Pseudoscience, and Causal Reasoning**  
Chapters 1-6, Stanovich  
Chapter 1, Kazdin |
| 9/4   | **Generalizability, Cumulative Evidence, Chance is Lumpy, Cognitive Biases, Multiple Causation, and Other Meddlesome Truths**  
Chapters 7-12, Stanovich  
| 9/11  | **Causal Inference I**  
Kazdin, Chapters 2-3.  
| 9/18  | **Randomization and Experimental Design**  
Kazdin, Chapters 5 & 6  
| 9/25  | **Issues in Measurement I and interpretation (AKA, limitations of null hypothesis tests and randomized experiments)**  
Epidemiology (8), 6, 621-628.

10/2

Issues in Measurement II – Classical Test Theory
Crocker, L., and Algina, J. (1986). Introduction to classical and modern test theory, Classical test theory, and Reliability and the classical true score model.

10/9

Measurement III – Item Response Theory

10/16

Quasi-experiments and non-equivalent groups
Kazdin, Chapter 7

Presentations

10/23

Assessment Methods and Strategies
Evaluation of Interventions
Kazdin, Chapters 13 and 14
10/30  **Natural Experiments**

11/6  **Research Presentations and Discussion**

11/13  **Measurement IV - Meta-analysis and validity generalization**

11/20  **Thanksgiving Break – No Class**

11/27  **Publication Process, Peer Review Pros and Cons, Research Integrity**
Fraud in Psychology, the cases of Diederik Stapel, Marc Hauser, and Karen Ruggerio Various articles.

**Optional readings**
Sokal’s web page has links to many other papers and discussion surrounding this hoax: [http://www.physics.nyu.edu/faculty/sokal/](http://www.physics.nyu.edu/faculty/sokal/)

12/4  **Research Presentations and Discussion**