Thursday, 12:30-3:15  
John Dewey Hall 126A  
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Office Hours: Monday 3:30-4:30

**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 the discussion on assigned topics. On most topics, I will provide an overview and emphasize key points. Discussion will follow the overview.

**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:  
[http://www.uvm.edu/~tstickle/349](http://www.uvm.edu/~tstickle/349)

I will provide you with a login and password to gain access to these articles.
Additional readings as listed below.

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<th>Date</th>
<th>Topic and Readings</th>
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<tr>
<td>9/1</td>
<td><strong>Falsifiability, Little Green Men, Science, and Pseudoscience</strong>&lt;br&gt;Chapters 1-4 in Stanovich</td>
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Randomization and Experimental Design
Kazdin, Chapters 5 & 6

Issues in Measurement and interpretation (AKA, limitations of null hypothesis tests and randomized experiments)

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

Natural Experiments
11/5  **Program Evaluation – Overview**  

11/12  **Program Evaluation – Process and Outcome**  

11/19  No Class – Instructor out of town

11/26  **No Class Thanksgiving Holiday**

12/3  **Longitudinal Design and analysis**  

Assignments

Each exercise should be typed, double-spaced, and concise. Do not restate the methods and aims of the study, but do include a copy of the article you are discussing. Do not simply rehash each article and restate what the authors have said. You are to critique the article you choose in ways relevant to the assignment. The purpose of these assignments is to apply the concepts and principles that we cover in class readings and discussion. Each assignment builds on those concepts and the final assignment is a comprehensive application of the concepts and principles covered in the class. These assignments will increase your ability to critically assess and design research. They will also prepare you to competently participate in peer review of research. Please feel free to come to me for any clarification or questions about the assignments.

9/17  Pick an article of interest to you that reports an empirical finding. Write a purposely misleading but persuasive one page or less summary of the article for publication in the Washington Post. This summary is written in a journalistic style. In the following 2-4 pages, discuss how the newspaper reader may be misled by your presentation of the original scientific article.

10/08  Choose one research article from a journal of interest to you and extract from it all statements that appear to infer cause in any way. Assess in a general way the basis for each inference and its likely validity. That is, how reasonable is a causal inference in light of the data presented?

10/29  Choose one research article that uses correlational (observational) methods. That is, associations are reported between independent and dependent variables but there is not random assignment to treated and control groups. A longitudinal study qualifies as a correlational design if no intervention is made. Evaluate the study's adequacy in terms of threats to statistical conclusion validity and internal validity. Do not survey all possible threats to validity; rather, emphasize those that apply most directly to your particular study. Discuss how the study's design could be improved.

11/12  Pick an article in your field of research interest that you think is especially weak and should not have been published. Pretend you are reviewing the article prior to publication and make the case against its publication. The article chosen should not be one that is widely recognized in your field as flawed or inadequate.


Read the article as if it has been submitted for publication to the same journal and you have been asked to provide an anonymous review. Your review should cover the
relevant methodological and statistical issues discussed in this course (and elsewhere). In particular, you should address sampling, measurement, importance of the question(s), randomization (or lack of), handling of non-equivalent groups, summary of the relevant literature, important omissions from the relevant literature, attention to threats to validity, causal statements and their justification, appropriateness of statements about generalizability of the findings, justification of conclusions and claims made in the discussion section, whether appropriate limits to the study’s design, method, analysis, and conclusions were adequately addressed, and any other important aspects of the study.

Again, do not restate what is said in the paper, rather, discuss and critique what was said and done. Reviews for journals generally provide a short, one paragraph summary of the submitted manuscript and then discussion of its strengths and weaknesses. This paper should be 5 – 10 pages in length.