

W1490  
Fall 2006  
Syllabus

Experimental Psychology: Thinking and Decision Making  
W1490 – Fall 2006

Course Information:

Lecture Location: 200B Schermerhorn  
Lecture Time: Wed. 12:10 – 2:00

Lab Location: 200C Schermerhorn  
Lab 1: Wed 6:10-8:00  
Lab 2 Tues 4:10-6:00

Course web-site available on courseworks

Instructor Information:

Patricia Lindemann  
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Office hours: Tues 10:30-12:00, or by appointment  
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Teaching Assistant

Kirstin Appelt  
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Course Description:

This course has two main goals related to the two aspects of its title – Experimental Psychology: Thinking and Decision Making. First, this is a course that will introduce you to the **experimental** aspects of psychology. To this end, it is designed to provide instruction in research design, basic data-analysis methods, scientific communication (written and oral), and research ethics. Though we will focus on research in thinking and decision making, nearly all of the experimentally oriented concepts that we cover will apply more generally as well. In addition, as the second part of the course title indicates, this is a course focused on the topic area of **thinking and decision making** and we will investigate selected topics in this area. As we learn about particular theories, we will focus on the process of conducting, analyzing and reporting the research that supports and/or refutes these theories. In the laboratory portion of the course, students will have an opportunity to get hands-on experience with the research experience including the development of a research project, conducting the project and reporting the results both verbally and in writing.

This course is a good complement to the lecture course Psyc W 2235 which provides a more comprehensive survey of topics in thinking and decision making.

Prerequisites:

An introductory course in psychology such as W1001 or W1010 is a prerequisite for this course. If you have not taken one of these courses, you will need the permission of the instructor to register. Statistics is not a required prerequisite for this course, though it is recommended. Most students prefer to take this course after having taken at least one upper level psychology course, though this is not a requirement.

Readings:

**Required**

One of the primary objectives for this course is to develop your understanding of the research methods used in psychology in general (and for research in thinking and decision making in particular). Towards this end, we will be using a standard psychology research methods textbook. It is available at the Columbia University book store. The text is:

Shaughnessy J.J., Zechmeister E.B. & Zechmeister, J.S. (2005). *Research Methods in Psychology* (7<sup>th</sup> ed.). Boston, MA: McGraw-Hill.

**Recommended**

Some of you will already have a background in the psychology of thinking and decision making or a familiarity with decision making theory from another discipline such as economics or philosophy. Most of you will not have a background in this area. If you are among the students without a background in this area, I recommend a brief, easy-to-read text that will introduce you to relevant topics.

S. Plous, *The psychology of judgment and decision making*. (1993). McGraw-Hill Publishing Co.

This text is available at the Columbia bookstore. Many of you will find it to be a useful reference source. Throughout the semester there will be some required readings from this text which will be available on-line through the course web-site.

Course Organization:

**Lecture**

The lecture portion of the course will typically focus on material covered in the readings. Class discussion will be encouraged.

**Laboratory**

In the laboratory section of the course, you will get hands on experience in conducting research. This will include one introductory project to familiarize you with the basics of conducting research, simple data analysis and reporting research. The bulk of the term will be spent developing and conducting your own research projects. Your final project will be to write up your research for publication in the Experimental Psychology: Thinking and Decision Making class journal.

Course requirements

**Lecture**

Exams: There will be two exams for this course. The exams will cover material presented in the readings and the lectures. Exam format will be discussed in class. It will include short written responses and longer essay responses.

Oral Presentation: During the semester in lab, you will develop an independent research project. During the last two class sessions, students will present their research findings.

**Lab**

Lab Reports: As part of the laboratory portion of the course, you will learn how to write a lab report using the standard format for psychology papers. You will write two lab reports, one for the Introductory project and one for your individual project.

Project Proposal: Each student will write up their own project proposal for independent research. You will also present your project idea to your lab section.

Lab Participation: The success of this course will, in part, depend on the active participation of the students. To encourage active participation, you will be given a laboratory participation grade. Any student who attends all of the required lab sessions and actively participates in the lab activities will receive full credit for participation.

Grading:

**Lecture** (50% of final grade)

Exam 1 – 40%	Oct. 18
Exam 2 – 40%	TBA (Final Exam Week)
Oral Presentation – 20%	Nov. 29 or Dec. 6

**Lab** (50% of final grade):

Introductory Lab Report – 30%	Oct. 4
Project Proposal (Oral) – 10%	Oct. 25
Project Proposal (Written) – 20%	Oct. 25
Final Project Lab Report – 30%	Dec. 6
Lab Participation – 10%	

Students with Disabilities:

Students with disabilities who will be taking this course and may need disability related classroom accommodations are encouraged to make an appointment to see me as soon as possible. Also, stop by the Office of Disability Services in Lerner Hall, Suite 802 to register for support services, if you have not done so already.

Schedule of classes:

This schedule is not set in stone. Changes may occur. If there is a topic you would like to propose, feel free to suggest it and we may be able to adjust the syllabus accordingly.

*Note:*

SZZ = the research methods text

All other required readings will be available on-line on the course web-site

**Sept. 6 - Scientific Method**

NO LAB this week

No Readings

**Sept. 13 – Confirmation Bias and Hypothesis Testing**

Weather Lab – Week 1 (Data Collection and Hypothesis Development)

Required Readings

SZZ - Chapter 1 & 2

Baron, J. (2000). *Thinking and Decision Making*, Third Edition, Cambridge, UK: Cambridge University Press. (Part of Chapter 7 – Hypothesis Testing, pp. 149-166).

Wason, P. C. (1960). On the failure to eliminate hypotheses in a conceptual task. *Quarterly Journal of Experimental Psychology*, 12, 129-140.

Snyder, M. (1981). Seek and ye shall find: Testing hypotheses about other people. In E. T. Higgins, C. P. Heiman, & M. P. Zanna (Eds.), *Social cognition: The Ontario symposium on personality and social psychology* (pp. 277-303). Hillsdale, NJ: Erlbaum

Dawson, E., Gilovich, T., Regan, D.T. (2002). Motivated reasoning and performance on the Wason selection task. *Personality and Social Psychology Bulletin*, 28(10), 1379-1387.

Related Optional Readings

- Cheng, P.W. & Holyoak, K. (1985). Pragmatic reasoning schemas. *Cognitive Psychology*, 17, 391-416.
- Nickerson, R.S. (1998). Confirmation bias: A ubiquitous phenomena in many guises. *Review of General Psychology*, 2(2), 175-220.  
(This is a fairly long paper that discusses a variety of issues related to confirmation bias. If you are interested in this topic, I would recommend skimming the first section and focusing on the later parts of the paper which discuss applications of confirmation bias and potential explanations for this phenomenon.)

**Sept. 20 - Probability Judgments – heuristics and biases**

Weather Lab – Week 2 (Beginning Data Analysis)

Required Readings

SZZ – Chapter 4

- S. Plous, *The psychology of judgment and decision making*. (1993). McGraw-Hill Publishing Co. (Chapters 10, 11, 12 and 14. (These brief chapters will give you an overview of the phenomena we'll be discussing.)
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131.
- Slovic, P., Finucane, M., Peters, E., & MacGregor, D. G. (2002). The affect heuristic. In T. Gilovich, D. Griffin, and D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 397-420). Cambridge: Cambridge University Press.

Related Optional Readings

- Baron, J. (2000). *Thinking and Decision Making*, Third Edition, Cambridge, UK: Cambridge University Press. section on Bayes' theorem pp. 109 - 120).
- Gilovich, T., Vallone, R., and Tversky, A. (1985). The hot hand in basketball: On the misperception of random sequences. *Cognitive Psychology*, 17, 295-314.
- Kahneman, D. & Frederick, S. (2002). Representativeness revisited: Attribute substitution in intuitive judgment. In T. Gilovich, D. Griffin, and D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 49-81). Cambridge: Cambridge University Press.

**Sept. 27 - Probability Judgments – heuristics and biases (an alternate perspective)**

Weather Lab – Week 3 (Finish Analysis – Discuss Lab Write-Up)

Required Readings

- SZZ – Chapter 14 (for use as reference when writing your lab report – this will not be covered on the exam)
- SZZ – Chapter 5
- Gigerenzer, G. (1991). How to make cognitive illusions disappear: Beyond "heuristics and biases." *European Review of Social Psychology*, 2, 83-115.
- Hoffrage, U., Lindsey, S., Hertwig, R. & Gigerenzer, G. (2000). Communicating statistical information. *Science*. Vol 290(5500), 2261-2262.

Related Optional Readings

- Kahneman, D., & Tversky, A. (1996). On the reality of cognitive illusions. *Psychological Review*, 103, 582-591.

**Oct. 4 and Oct. 11 - Utility Theory and Prospect Theory**

Lab Oct 4 – Hypothesis testing exercise

Lab Oct 11 – Introduction of Research Project

Required Readings

SZZ – Chapter 6

S. Plous, *The psychology of judgment and decision making*. (1993). McGraw-Hill Publishing Co. (Chapters 7-9)

Iyengar, S. Wells, R. & Schwartz, B., (2006). Doing better, but feeling worse: Looking for the “best” job undermines satisfaction. *Psychological Science*, 17 (2), 143-150.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211, 453-458.

Plott & Zeiler. (2005). The willingness to pay–willingness to accept gap, the “endowment effect,” subject misconceptions, and experimental procedures for eliciting valuations, *American Economic Review*, 95(3), 530-545.

Related Optional Reading:

Kahneman, D. & Tversky, A. (1979). Prospect theory: An analysis of decisions under risk. *Econometrica*, 47, 263-291. (This paper is truly a classic. If you find prospect theory interesting, it is well worth your attention.)

Wagenaar, W., Keren, G., & Lichtenstein, S. (1997). Islanders and hostages: Deep and surface structure of decision problems. In William M. Goldstein and Robin M. Hogarth (Eds.) *Research on judgment and decision making: Currents, connections and controversies*. (pp. 552-565). Cambridge University Press.

**October 18 – Midterm Exam**

Lab – Work on research proposals – Discuss format of written and oral presentations

**October 25 & Nov. 1 – Emotions and Decision Making**

Lab Oct. 25 – Oral Presentations of Research Proposals and project selection

Lab Nov. 1 – Group work on research projects

Required Reading:

SZZ – Ch. 7

Rottenstreich, F., & K. Hsee, C. (2001). Money, kisses and electric shocks: On the affective psychology of risk. *Psychological Science*, 12(3), 185-190.

Isen, A. M. (1997). Positive affect and decision making. In W. M. Goldstein & R.M. Hogarth (Eds.) *Research on judgment and decision making: Currents, connections and controversies* (pp. 509-537). New York: Cambridge University Press.

Lerner, J. S., Small, D. A., and Loewenstein, G. (2004). Heart strings and purse strings: Effects of specific emotions on economic transactions. *Psychological Science*, 15(5), 337-341. (We’ll discuss the theoretical background for appraisal-tendency theory in class. This theory is discussed in the (optional) Lerner and Keltner article cited below)

Sinaceur, M., Heath, C. & Cole, S. (2005). Emotional and deliberative reactions to a public crisis: Mad cow disease in France. *Psychological Science*, 16 (3), 247-254.

Wilson, T & Gilbert, D., (2005). Affective forecasting: Knowing what to want. *Current Directions in Psychological Science*, 14 (3), 131-134.

Related Optional Reading:

Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgment and choice. *Cognition and Emotion*, 14(4), 473-493.

Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin*, 127(2), 267-286. (In class, we will briefly discuss the theory put forth in this article.)

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**Nov. 8 – Qualitatively Different Approaches to Decision Making  
(Data Collection – “Bring a Friend to Class Day”)**

Lab – Data entry and analysis

Required Reading:

SZZ – Ch. 8

March, J. G. (1994). *A Primer of Decision Making: How Decisions Happen*. New York:  
The Free Press. (Chapter 3)

Klein, G. (1999). *Sources of Power: How People Make Decisions*. Cambridge MA, The MIT  
Press. (Chapters 2-4)

Related Optional Reading:

Weber, E. U., Ames, D., & Blais, A.-R. (2005). “How do I choose thee? Let me count the ways:”  
A textual analysis of similarities and differences in modes of decision making in China and  
the United States. Management and Organization Review, 1, 87-118.

Nov. 15 and Nov. 22 – Neuropsychological Approaches to Decision Making

Lab Nov. 15 – Data Analysis

No Lab Nov. 22

Required Reading:

SZZ – Ch. 9

Additional Readings TBA

Nov. 29 – Student Presentations

Lab – TBA

Dec. 6 – Student Presentations