

Peabody College of Vanderbilt University
Department of Special Education
Syllabus for SPED 3017
Tuesday and Thursday, 2:35pm to 3:50pm
Wyatt Center, Room 050-03
Spring Semester, 2006

Course Information

SPED 3017: Experimental Analysis of Behavior (3 semester credit hours)

Instructor Information

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Course Description

Overview of basic behavioral processes. Presents information relating to human and nonhuman learning with a focus on the experimental analysis of behavior. Topics covered include environmental feedback mechanisms, nonassociative learning, respondent conditioning, schedules of reinforcement, motivating operations, multioperant performances, stimulus control, remembering, and behavioral phenotyping. The course also focuses on $N=1$ research methodologies and the critical analysis of research. Students apply their skills using computer-based simulations of laboratory experiments.

Corequisite: None

Required Texts

Catania, A. C. (1998). *Learning* (4th Ed.). Upper Saddle River, NJ: Prentice-Hall.

Crawley, J. N. (2000). *What's wrong with my mouse?* New York: Wiley.

Required Software

Sniffy the virtual rat (Pro version 2.0). Belmont, CA: Wadsworth.

Additional Readings

- Caine, S. B., & Koob, G. F. (1994). Effects of mesolimbic dopamine depletion on responding maintained by cocaine and food. *Journal of the Experimental Analysis of Behavior*, *61*, 213-221.
- Dougherty, D. M., et al. (1994). The effects of smoked marijuana on progressive-interval schedule performance in humans. *Journal of the Experimental Analysis of Behavior*, *62*, 73-87.
- Gewirtz, J. L., & Baer, D. M. (1958). The effect of brief social deprivation on behaviors for a social reinforcer. *Journal of Abnormal and Social Psychology*, *56*, 49-56.
- Hackenberg, T. D., & Joker, V. R. (1994). Instructional versus schedule control of humans' choices in situations of diminishing returns. *Journal of the Experimental Analysis of Behavior*, *62*, 367-383.
- Hammond, L. J. (1980). The effect of contingency upon the appetitive conditioning of free-operant behavior. *Journal of the Experimental Analysis of Behavior*, *34*, 297-304.
- Kennedy, C. H., Caruso, M., & Thompson, T. (2001). Experimental analyses of gene-brain-behavior relations: Some notes on their application. *Journal of Applied Behavior Analysis*, *34*, 539-549.
- Lattal, K. A. (1995). Contingency and behavior analysis. *The Behavior Analyst*, *18*, 209-224.
- Lattal, K. A., & Neef, N. A. (1996). Recent reinforcement-schedule research and applied behavior analysis. *Journal of Applied Behavior Analysis*, *29*, 213-230.
- LeFrancois, J. R., & Metzger, B. (1993). Low-response-rate conditioning history and fixed-interval responding in rats. *Journal of the Experimental Analysis of Behavior*, *59*, 543-549.
- Murray, L. K., & Kollins, S. H. (2000). Effects of methylphenidate on sensitivity to reinforcement in children diagnosed with attention deficit hyperactivity disorder: An application of the matching law. *Journal of Applied Behavior Analysis*, *33*, 573-591.
- Thompson, T., & Schuster, C.R. (1964). Morphine self-administration, food-reinforced and avoidance behaviors in Rhesus monkeys. *Psychopharmacologia*, *5*, 57-94.
- Vollmer, T. R., & Hackenberg, T. D. (2001). Reinforcement contingencies and social reinforcement: Some reciprocal relations between basic and applied research. *Journal of Applied Behavior Analysis*, *34*, 241-253.

The *JABA* and *JEAB* articles are available at the following URL:

<http://seab.envmed.rochester.edu/>

Course Content

<i>Week</i>	<i>Topic</i>
Jan. 12	Course overview
Jan. 17	Natural sciences and learning
Jan. 19	Nonassociative learning
Jan. 24	Overview of respondent conditioning
Jan. 26	Respondent conditioning processes
Jan. 31	Overview of operant behavior
Feb. 2	Shaping and avoidance
Feb. 7	Basic schedules of reinforcement
Feb. 9	Readings I: Applying basic processes
Feb. 14	Exam I
Feb. 16	Compound schedules of reinforcement
Feb. 21	Motivating operations
Feb. 23	No lecture
Feb. 28	Matching law and concurrent operants
Mar. 2	Discriminative stimulus control
Mar. 6-10	Spring break
Mar. 14	Primary stimulus generalization
Mar. 16	Conditional stimulus control
Mar. 21	Readings II: Applying basic processes
Mar. 23	Exam II
Mar. 28	Stimulus equivalence
Mar. 30	Verbal behavior
Apr. 4	Overview of behavioral phenotyping
Apr. 6	Motor functioning
Apr. 11	Sensory systems
Apr. 13	Aggression and anxiety
Apr. 18	Feeding, drinking, and reproduction (add PPI & Porsolt)

Apr. 20	Learning and memory
Apr. 25	Readings III: Applying basic processes
Apr. 27	Exam III

Chapters, Readings, and Projects

• *January 12*

Course overview

• *January 17*

Catania Chapter 1

Reading 1: Gewirtz & Baer, 1958, *JASP* (due: 1/24)

• *January 19*

Catania Chapter 3

Project 1 (due: 1/26)

• *January 24*

Catania Chapter 4

Reading 2: Hammond, 1980, *JEAB* (due: 1/31)

• *January 26*

Catania Chapter 12

Project 2 (due: 2/2)

• *January 31*

Catania Chapters 2 and 6

Reading 3: Lattal, 1995, *TBA* (due: 2/7)

• *February 2*

Catania Chapters 5 and 7

Project 3 (due: 2/9)

• *February 7*

Catania Chapter 10
Reading 4: Vollmer & Hackenberg, 2001, *JABA*

• **February 9**

Discussion of readings 1-4

• **February 14**

Exam I

• **February 16**

Catania Chapter 11
Reading 5: LeFrancois & Metzger, 1993, *JEAB* (due: 2/23)

• **February 21**

Laraway et al. (2003) *JABA*, 36, 407-414.
Project 4 (due: 2/28)

• **February 23**

No lecture
Reading 6: Hackenberg & Joker, 1994, *JEAB* (due: 3/2)

• **February 28**

Review Catania (pp. 187-195)
Project 5 (due: 3/14)

• **March 2**

Catania Chapter 8 (pp. 128-135)
Reading 7: Dougherty et al., 1994, *JEAB* (due: 3/16)

• **March 6-10**

Spring break

• **March 14**

Catania Chapter 8 (pp. 135-147)
Project 6 (due: 3/21)

• **March 16**

Catania Chapter 9
Reading 8: Lattal & Neef, 1996, *JABA*

• **March 21**

Discussion of readings 5-8

• **March 23**

Exam II

• **March 28**

Review Catania Chapter 9
Reading 9: Thompson & Schuster, 1964, *Psychopharm* (due: 4/4)

• **March 30**

Catania Chapters 14 and 15
Project 7 (due: 4/6)

• **April 4**

Crawley Chapters 1 & 2
Reading 10: Caine & Koob, 1994, *JEAB* (due: 4/11)

• **April 6**

Crawley Chapters 3 & 4
Project 8 (due: 4/13)

• **April 11**

Crawley Chapter 5
Reading 11: Murray & Kollins, 2000, *JABA* (due: 4/18)

• **April 13**

Crawley Chapters 9 & 10
Project 9 (due: 4/20)

• **April 18**

Crawley Chapters 7 & 8

- ***April 20***

Crawley Chapters 6 & 11
Reading 12: Kennedy et al., 2001, *JABA*

- ***April 25***

Discussion of readings 9-12

- ***April 27***

Exam III

Performance Evaluation

Task	Points
Reading 1	5
Project 1	5
Reading 2	5
Project 2	5
Reading 3	5
Project 3	5
Exam I	50
Reading 5	5
Project 4	5
Reading 6	5
Project 5	5
Reading 7	5
Project 6	5
Exam II	50
Reading 9	5
Project 7	5
Reading 10	5
Project 8	5
Reading 11	5
Project 9	5
Exam III	50

Total 240

Grading

A+ Top Grade	A (100% to 93%)	A- (92% to 90%)
B+ (89% to 87%)	B (86% to 83%)	B- (82% to 80%)
C+ (79% to 77%)	C (76% to 73%)	C- (72% to 70%)
D+ (69% to 67%)	D (66% to 63%)	D- (62% to 60%)
F (\leq 59%)		

Readings

A two page summary of each reading is due 1 week after the assigned date. Papers should be written in APA Manual style (5th Ed.). Paper should outline the following: (a) experimental question or hypothesis, (b) subject population, (c) what behavior(s) were measured and how, (d) what types of experimental manipulations occurred, (e) how the experimental manipulations changed behavior, and (f) the authors' summary of why their study was important.

Projects

Specific details for each project will be provided in written format the day the assignment is made in class.