Psychology 363

Learning

Professor: Andrew Brandt, PhD
Office: 52-E Phillips Hall
Office hour: Monday 12:00 – 1:00

Course Materials

1. Behavior Analysis and Learning *6th ed*. by Pierce and Cheney
2. All articles listed on the course schedule

Description: The course introduces students to theories of learning, which form the foundation of psychology. Students will learn how learning and behavior are investigated through animal laboratory research and about the application of these principles for improving people's lives.

Objectives

1. Describe the procedures and expected outcomes of respondent and operant conditioning and related mechanisms, such as discrimination and generalization
2. Distinguish the importance of behavioral contingencies (function) and behavioral topography
3. Conduct informal functional analysis of human and non-human animal behavior
4. Connect knowledge about learning and behavior discovered in the animal laboratory to professional practices in applied psychology

Organization

- Class periods with assigned textbook material or articles will be used to present and discuss key points; complete the assigned reading prior to class
- Exams may cover any course material, including the textbook, articles, and lectures

Coursework	
TIP Project	20%
Exams	80%

Grading Scale			
97% ≤ A+	87% ≤ B+ < 90%	77% ≤ C+ < 80%	67% ≤ D+ < 70%
93% ≤ A < 97%	83% ≤ B < 87%	73% ≤ C < 77%	63% ≤ D < 67%
90% ≤ A- < 93%	80% ≤ B- < 83%	70% ≤ C- < 73%	60% ≤ D- < 63%

Course Schedule

Week 1 Jan 10 - 14	Thur	Course Overview **Preface - A Science of Behavior**
Week 2 Jan 17 - 21	Tues	**Chapter 1: A Science of Behavior: Perspective, History, and Assumptions** Science of Behavior Focus On: Burrhus Frederic Skinner A Brief History of Behavior Analysis Science and Behavior: Some Assumptions
	Thur	**Chapter 2: The Experimental Analysis of Behavior** Functional Analysis of Behavior Functional Analysis of the Environment Tactics of Behavioral Research Single-Subject Research
Week 3 Jan 24 - 28	Tues	Ferster (1953). Sustained behavior under delayed reinforcement. Journal of Experimental Psychology, 45, 218-224. Raiff & Dallery (2010). Internet based contingency management to improve adherence with blood glucose testing recommendations for teens with type 1 diabetes. Journal of Applied Behavior Analysis, 43, 487-491.
	Thur	**Chapter 3: Reflexive Behavior and Respondent Conditioning** Phylogenetic Behavior Ontogenetic Behavior Davis & Heslop (2004). Habituation of hissing by Madagascar hissing cockroaches (Gromphadorhina portentosa): Evidence of discrimination between humans? Behavioural Processes, 67, 539-543.
Week 4 Jan 31 – Feb 4	Tues	**Chapter 3: Reflexive Behavior and Respondent Conditioning** Temporal Relations and Conditioning Second-Order Respondent Conditioning Aspects of Complex Conditioning
	Thur	Rescorla (1968). Probability of shock in the presence and absence of CS in fear conditioning. Journal of Comparative & Physiological Psychology, 66, 1-5. Davey (1988). Dental phobias and anxieties: Evidence for conditioning process in the acquisition and modulation of a learned fear. Behaviour Research and Therapy, 27, 51-58.
Week 5 Feb 7 - 11	Tues	**Chapter 4: Reinforcement and Extinction of Operant Behavior** Operant Behavior Focus On: Reward and Intrinsic Motivation
	Thur	**Chapter 4: Reinforcement and Extinction of Operant Behavior** Operant Conditioning Focus On: Reinforcement and Problem Solving

Week 6 Feb 14 - 18	Tues	Cherek, Thompson, & Heistad (1972). Effects of delta-one-THC and food deprivation level on responding maintained by the opportunity to attack. Physiology and Behavior, 9, 795-800. Vollmer & Iwata (1991). Establishing operations and reinforcement effects. Journal of Applied Behavior Analysis, 24, 279-291.
	Thur	**Chapter 4: Reinforcement and Extinction of Operant Behavior** Extinction
Week 7 Feb 21 - 25	Tues	Poling et al. (2011). Tuberculosis detection by giant African pouched rats. The Behavior Analyst, 34, 47-54. Seiverling, et al. (2012). Effects of behavioral skills training on parental treatment of children's food selectivity. Journal of Applied Behavior Analysis, 45, 197-203.
	Thur	TIP Project Preparation **Chapter 13: Applied Behavior Analysis** Characteristics of Applied Behavior Analysis Research Strategies in Applied Behavior Analysis Contingency Management and Substance Abuse Behavior Analysis in Education Applications of Behavior Principles: Self-Control and Autism Behavioral Treatment and Prevention: The Problem of Obesity
Week 8 Feb 28 – Mar 4	Tues	**Exam 1**
	Thur	Open Conferences
Spring Break		
Week 9 Mar 14 - 18	Tues	**Chapter 5: Schedules of Reinforcement (and Punishment)** Importance of Schedules of Reinforcement Focus On: C. B. Ferster and Schedules of Reinforcement Behavior Analysis: A Progressive Science Schedules of Positive Reinforcement Ratio and Interval Schedules of Reinforcement Focus On: Generality of Schedule Effects Progressive-Ratio Schedules Schedule Performance in Transition
	Thur	Powell (1968). The effect of small sequential changes in fixed-ratio size upon the post-reinforcement pause. Journal of the Experimental Analysis of Behavior, 11, 589-593. Cherek & Pickens (1970). Schedule induced aggression as a function of fixed ratio value. Journal of the Experimental Analysis of Behavior, 14, 309-311.
Week 10 Mar 21 - 25	Tues	**Chapter 6: Aversive Control of Behavior** Aversive Control in Everyday Life Contingencies of Punishment Use of Punishment in Treatment Punishment: Permanence and Paradox

		Focus On: Physical Punishment and Psychiatric Disorders Capriotti et al. (2012). Comparing the effects of differential reinforcement of other behavior and response cost contingencies on tics in youth with Tourette syndrome. Journal of Applied Behavior Analysis, 45, 251–263.
	Thur	**Chapter 6: Aversive Control of Behavior** Contingencies of Negative Reinforcement Focus On: Escape and Infant Caregiving Determinants and Analysis of Avoidance Behavior Side Effects of Aversive Procedures MacPhail (1968). Avoidance responding in pigeons. Journal of the Experimental Analysis of Behavior, 11, 629-632.
Week 11 Mar 28 – Apr 1	Tues	**Chapter 7: Operant–Respondent Interrelationships: The Biological Context of Conditioning** Analysis of Operant–Respondent Contingencies The Biological Context of Conditioning Focus On: Taste Aversion, Neural Activity, and Drug Cravings Experimental Analysis of Adjunctive Behavior Advanced Section: Autoshaping as Operant–Respondent Interrelationships
	Thur	**Chapter 8: Stimulus Control** Differential Reinforcement and Discrimination Stimulus Control and Multiple Schedules Focus On: Discrimination and the "Bird-Brained" Pigeon Multiple Schedules and Behavioral Contrast Hirschhorn & Winter (1971). Mescaline and lysergic acid diethylamide (LSD) as discriminative stimuli. Psychopharmacologia, 22, 64-71.
Week 12 April 4 - 8	Tues	**Chapter 8: Stimulus Control** Generalization Errorless Discrimination and Fading Pierce & Schreibman (1997). Multiple peer use of pivotal response training to increase social behaviors of classmates with autism: Results from trained and untrained peers. Journal of Applied Behavior Analysis, 30, 157–160.
	Thur	Chapter 8: Stimulus Control Complex Stimulus Control Behavior Analysis of Remembering and Forgetting Focus On: Concept Formation in Pigeons Conditional Discrimination Devany et al. (1986). Equivalence class formation in language-able and language-disabled children. Journal of the Experimental Analysis of Behavior, 46, 243-257.

		Submit Presentation Slides for Feedback
Week 13 April 11 - 15	Tues	**Chapter 9: Choice and Preference (matching models)** Experimental Analysis of Choice and Preference The Matching Relation Extensions of the Matching Relation Matching on Single-Operant Schedules Gilbert-Norton, Shahan, & Shivik (2009). Coyotes (Canis latrans) and the matching law. Behavioural Processes, 82, 178–183.
	Thur	**Chapter 9: Choice and Preference (optimal foraging, demand, and delay discounting models)** Choice, Foraging, and Behavioral Economics Behavioral Economics, Choice, and Addiction Barnard & Brown (1985). Risk-sensitive foraging in common shrews (Sorex araneus L.). Behavioral Ecology and Sociobiology, 16, 161-164.
Week 14 April 18 - 22	Tues	**Chapter 10: Conditioned Reinforcement** Chain Schedules and Conditioned Reinforcement Focus On: Backward Chaining Conditioned Reinforcement: Determinants and Analysis Information and Conditioned Reinforcement Delay Reduction and Conditioned Reinforcement Generalized Conditioned Reinforcement
	Thur	**Chapter 14: Three Levels of Selection: Biology, Behavior, and Culture** Level 1: Evolution and Natural Selection Genetic Regulation of Behavior Focus On: Genetic Control of a Fixed-Action Pattern Level 2: Behavioral Selection by Reinforcement Focus On: Operant Regulation in the Marine Snail, Aplysia Evolution, Reinforcement, and Verbal Behavior Level 3: Selection and Evolution of Culture Focus On: Macrocontingency, Depleting Resources, and Costly Use of Punishment Origin, Transmission, and Evolution of Cultural Practices McGuire & Hircht (1977). Behavior-genetic analysis of Phormia regina: Conditioning, reliable individual differences, and selection. Proceedings of the National Academy of Science, 74, 5193-5197.
Week 15 April 25 - 29	Tues	**Exam 2**
Finals Week		**Student Presentations**, Friday, April 29 at 7:30 pm

Course Grade: A student's final grade will be determined by their academic performance and other factors (such as attendance, see below). Students may request that the professor review and reconsider the evaluation of their academic performance. Such requests may result in no grade change, a higher grade, or a lower grade. After receiving the results of a regrade request, a student who believes their grade still does not adequately reflect their academic performance should follow the steps described in the "Academic Grievance Policy" in the "Academic Regulations and Procedures" section of the OWU Course Catalog.

If any circumstance adversely affects a student's ability to complete any part of the coursework, it is the student's responsibility to promptly inform the professor and provide a justification. Coursework will not be accepted late without a justification approved by the professor.

Respect for the In-Class Experience: Most students attend class because they wish to participate in the lecture and discussion, learn something new, and do well in the class. All students are expected to respect the right to a quality learning environment, which does not include talking, emailing, text messaging, checking social media, or disruptive behaviors while the instructor or another student has the floor. Any student who fails to respect this right will be asked to leave class. Repeated violations of this policy will result in a lowered course grade.

Direct Instruction and Out-of-Class Work: The usual 1-credit course spans 15 weeks with 3 to 4 hours of direct instruction delivered each week. Federal regulations require that students be responsible for an additional 6 hours of out-of-class work each week. Our compliance with the federal guidelines is monitored by our accreditation body, the Higher Learning Commission. Code of Federal Regulations, Title 34, §668.8

Academic Honesty. Students are responsible for understanding the policies and procedures in the OWU Student Handbook, especially those related to academic honesty. Ignorance of these policies will not be accepted as an excuse for academic dishonesty so students are encouraged to carefully review the definitions provided in the handbook, which include cheating, fabricating, facilitating, and plagiarizing. Students should consult their professor, academic advisor, or Dean of Academic Affairs if they are uncertain about any section of the academic honesty policy.

If the professor believes that a student has violated one or more academic honesty policies, the student may be penalized through a reduction in course grade. If a penalty is delivered to the student, the professor will send a report of the alleged violation with supporting evidence and a description of any penalty to the Dean of Academic Affairs. Multiple violations may result in a permanent record of academic dishonesty added to the student's official OWU transcript.

Equal Opportunity in Education. Your professor is committed to equal opportunity in education for all students, including those with documented physical or mental disabilities. The professor will meet with students individually or with other university staff to ensure that students receive the appropriate accommodations.