

**STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK**



COURSE OUTLINE

**ABAP 245 INTRODUCTION TO THE SCIENCE AND TECHNOLOGY
OF BEHAVIOR**

Prepared By: Dr. Stephen F. Ledoux

**SCHOOL OF BUSINESS AND LIBERAL ARTS
SOCIAL SCIENCES DEPARTMENT
APRIL 2015**

- A. **TITLE: Introduction to the Science and Technology of Behavior**
- B. **COURSE NUMBER: ABAP 245**
- C. **CREDIT HOURS: 3**
- D. **WRITING INTENSIVE COURSE: No**
- E. **COURSE LENGTH: 15 weeks face-to-face or asynchronous**
- F. **SEMESTER(S) OFFERED: Fall and Spring**
- G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:
3 lecture hours per week**
- H. **CATALOG DESCRIPTION:**

The first of a two course sequence, this course introduces students to the natural science and technology of behavior, behaviorology, encompassing the areas of fundamental principles, basic methods and measurements, and elementary technologies of applied behavior analysis including techniques applied in prevention and intervention settings, plus historical and philosophical perspectives, ethics, and current trends.

- I. **PRE-REQUISITES/CO-REQUISITES:**
 - a. Pre-requisite(s): none
 - b. Co-requisite(s): none

- J. **GOALS (STUDENT LEARNING OUTCOMES):**
By the end of this course, the student will be able to:

<i>Course Objective</i>	<i>Institutional SLO</i>
a. Describe fundamental principles;	2. Crit. Thinking 3. Prof. Competence
b. Describe basic methods and measurements	2. Crit. Thinking 3. Prof. Competence
c. Describe elementary practical technologies	1. Communication 3. Prof. Competence 4. Inter-Intrapersonal Skills
d. Summarize historical and philosophical perspectives	2. Crit. Thinking

K. TEXTS:

- Part I of *Running Out of Time—Introducing Behaviorology to Help Solve Global Problems* by Dr. Stephen Ledoux.
- Part I of *Study Questions for Running Out of Time—Introducing Behaviorology to Help Solve Global Problems* by Dr. Stephen Ledoux.
- Supplemented by other books and articles as appropriate.
(See references).

L. REFERENCES:

- Fraley, L. E. (2008). *General Behaviorology—The Natural Science of Human Behavior*. Canton, NY: ABCs.
- Ishaq, W. (Ed.). (1991). *Human Behavior in Today's World*. New York: Praeger.
- Krapfl, J. E. & Vargas, E. A. (Eds.). (1977). *Behaviorism and Ethics*. Kalamazoo, MI: Behaviordelia.
- Latham, G. I. (1994). *The Power of Positive Parenting*. Logan, UT: P and T.
- Ledoux, S. F. (2014). *Running Out of Time—Introducing Behaviorology to Help Solve Global Problems*. Ottawa, Canada: BehaveTech Publishing.
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- Ledoux, S. F. (2015). *Origins and Components of Behaviorology—Third Edition*. Ottawa, Canada: BehaveTech Publishing.
- Sidman, M. (2001). *Coercion and its Fallout—Revised Edition*. Boston, MA: Authors Cooperative.
- Sidman, M. (1994). *Equivalence Relations and Behavior: A Research Story*. Boston, MA: Authors Cooperative.
- Skinner, B. F. (1953). *Science and Human Behavior*. New York: Macmillan.
(Paperback edition published by Free Press, 1965.)
- Skinner, B. F. (1968). *The Technology of Teaching*. New York: Appleton–Century–Crofts.
- Skinner, B. F. (1969). *Contingencies of Reinforcement: A Theoretical Analysis*. New York: Appleton–Century–Crofts.
- Skinner, B. F. (1971). *Beyond Freedom and Dignity*. New York: Knopf.
- Skinner, B. F. (1972). *Cumulative Record: A Selection of Papers (Third Edition)*. New York: Appleton–Century–Crofts.
- Skinner, B. F. (1974). *About Behaviorism*. New York: Knopf.
- Skinner, B. F. (1978). *Reflections on Behaviorism and Society*. Englewood Cliffs, NJ: Prentice–Hall.
- Skinner, B. F. (1987). *Upon Further Reflection*. Englewood Cliffs, NJ: Prentice–Hall.
- Vargas, J. S. (1988). *Behaviorology for Teachers*. Morgantown, WV: L.E. Fraley.
- Watkins, C. L. (1997). *Project Follow Through: A Case Study of Contingencies Influencing Instructional Practices of the Educational Establishment*. Cambridge, MA: Cambridge Center for Behavioral Studies.
- West, R. P. & Hamerlynck, L. A. (Eds.). (1992). *Designs for Excellence in Education: The Legacy of B.F. Skinner (Limited Edition)*. Longmont, CO: Sopris West.
- Wyatt, W. J. (1997). *The Millennium Man*. Hurricane, WV: Third Millennium Press.

M. EQUIPMENT: Smart classroom.

N. GRADING METHOD: A-F

O. MEASUREMENT CRITERIA/METHODS:

To be determined by the instructor.

Possibilities include but are not limited to:

- assigned homework completion
- research papers
- book reports
- group oral/written reports
- individual oral/written reports
- essays
- class participation
- projects
- journals
- quizzes
- tests
- exams

P. DETAILED COURSE OUTLINE:

I. Fundamental principles of behavior and related methodology and measurement concerns.

A. Respondent behavior.

1. Simple reflexes.
2. Pavlov's research.
3. Conditioned reflexes.
4. Respondent extinction.
5. Physiological reflex mechanisms.

B. Operant behavior.

1. Operant and respondent compared.
2. Standard experimental preparation.
3. Standard laboratory measurement techniques (especially cumulative records).

C. Basic variables controlling behavior.

1. Primary and secondary reinforcers.
2. Added and subtracted reinforcers.
3. Factors affecting the speed of conditioning/learning.
4. Operant Extinction.
5. Coincidental contingencies and superstitious behavior.

D. Additional variables controlling behavior.

1. Establishing operations.
 - a. Deprivation and satiation.
 - b. Others.
2. Generalized reinforcers (e.g., tokens).
3. Intermittent reinforcement.
 - a. Basic response-based schedules.
 - b. Basic time-based schedules.
 - c. Schedule effects on extinction.

4. Stimulus control.
 - a. Stimulus evocation.
 - b. Stimulus generalization.
 - c. Environment–constructed concept formation.
 - d. Discrete and continuous repertoires.
5. Punishment.
 - a. By stimulus occurrence.
 - b. By stimulus disappearance.
 - c. Misconceptions / side effects.
 - d. Activation syndrome.
 - e. Requirements for appropriate / successful use.
 - f. Interactions with emotions.
 - g. Escape and avoidance.
- E. Scientific analysis and interpretation of complex cases.
 1. General interactions.
 - a. Multiple causes / conflicting causes.
 - b. Multiple effects / conflicting effects.
 - c. Contingency–shaped and verbally–governed behavior.
 2. Behavioral engineering.
 - a. Cultural design.
 - b. Aggression and control of aggression.
 3. Issues of self-control.
 - a. Analysis of voluntary and involuntary behavior.
 - b. Analysis of self-knowledge.
 - c. Self-help.
 4. Contingent change of cognitions / private events.

II. Elementary applicable technologies and related methodology and measurement concerns.

- A. Methods and measurement issues.
 1. Single subject designs.
 - a. ABA(B) Reversal designs.
 - b. Multiple Baseline designs.
 2. Measurement.
- B. Techniques that basically generate behavior.
 1. Differential reinforcement.
 2. Method of successive approximation (shaping).
 3. Token economy.
 4. Modeling and imitation.
- C. Techniques that basically decrease behavior.
 1. Extinction.
 2. Discriminated extinction.
 3. Systematic desensitization.
 4. Punishment.
- D. Techniques that basically maintain established behavior.
 1. Intermittent schedules of reinforcement.
 2. Generalization of successful preventions / interventions.
 3. General Level of Reinforcement
- E. Techniques involving more complex interactions of basic processes.

1. Discrimination.
 2. Fading.
 3. Chaining.
 4. Verbal and rule-governed behavior.
- F. Adaptation of techniques for self-control.
1. Adaptations that increase / maintain behavior.
 2. Adaptations that decrease behavior (and their attendant additional difficulties).
- III. Common intervention settings plus how the techniques are typically used for intervention with problems in each of these settings (these will likely be handled while covering examples of the use of the techniques described in “II” above).
- A. Family settings.
 - B. School settings.
 - C. Work settings.
 - D. Institutional settings.
 - E. Other settings.
- IV. Supplementary topics.
- A. Historical perspectives.
 - B. Philosophical perspectives.
 - C. Ethics and ethical behavior.
 - D. Disciplinary trends.
- Q. **LABORATORY OUTLINE:** No laboratory