**BEHV 3440**

**Data Collection & Analysis**

Spring 2013

**Instructor**

Shahla Ala’i Rosales, Ph.D., BCBA-D

**Office Hours**

Monday & Wednesday 2-3pm

Room 361D Chilton Hall

Srosales@unt.edu

**Course Meeting Information**

Tuesday & Thursday 12:30-1:50 LIFEA 419

**Course Tutoring**

Kimberly.G.Vail@gmail.com

361E Chilton

Tuesday 2-4pm, Thursday 9-11

**ADA Statement**

The Department of Behavior Analysis, in cooperation with The Office of Disability Accommodation, complies with the Americans with Disabilities Act. Please present your written request to me before the 3rd class meeting.

**Course Objectives**

In this course you will learn how to design and implement complete observational systems. You will be able to define behavior, learn about the observer’s behavior during data collection and use five methods of direct observation to quantify the occurrence of behavior. You will be able to describe the benefits and limitations of each of these data collection methods, and choose an appropriate observational method to record the occurrence of particular behaviors. You will also learn how to read and display data in tables and graphs. The course also includes an introduction to the logic of single subject designs. Students should enroll in this class only after they have taken BEHV 2300, 2700, or 3150.

1. Write a reliable operational definition of behavior.

2. Record behavior with five different recording methods.

3. Calculate the reliability of data.

4. Put data into table and graph format.

5. Read and describe linear graphs and cumulative records.

6. Design entire observational systems.

7. Explain the logic of single subject designs.

8. Describe four single subject designs.

**Required Materials**

**Clipboard**

**Stopwatch with alarm**

**Wrist counter**

**Calculator**

**Ruler**

**Graphing Paper**

**Student Activities, Requirements, and Point Allocations**

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| --- | --- | --- |
| Activity | Requirements | Points |
| In-class activities | During class time students will engage in a variety of activities designed to extend concepts and practice technical skills related to observation and measurement of behavior. Students will define behaviors, record behavior with five different observational systems (frequency, interval, time-sampling, checklists, and scatterplots), calculate the reliability of their observations, make and read scatterplots of behavior, cumulative records, and linear graphs. | 15 @ 1 pt each |
| *System* Project | Students will design and carry out one complete observational system (observation of multiple behaviors). They will write a report including definitions of at least three behaviors, data sheets, observation and reliability procedures, a table of the data, a graph of the data, and a description of the data. | 15 |
| Direct Observation Projects | Students will collect data on a behavior occurring in a public place for 1 hour and write a report over their observations. | 2 @ 10 pts each |
| Implementation of the Pla-Check System  | Students will work with a partner and use the Pla-Check system to take data in a public place, collect IOA, and write a short 2-3 page paper. | 10 |
| Mid-term & Final Exam | Students will take two 20 questions (short answer, multiple choice) exams. The exams will cover definitions and procedures learned during the course. | 2 @20 points each |
| Extra Credit | Data collection and IOA support for ORCA (must complete competency training and observe for 5 hours) | 10  |
| **TOTAL POINTS** | **Grading Scale****A= 100-90 B=89-80 C=79-70 D=69-60** **F= 59 or below** | **100** |

**Schedule of Activities**

|  |  |  |
| --- | --- | --- |
| Date | Topics | Assignment |
| January 15 | Course Overview and Introductions | None |
| January 17 | Basic Issues in Measurement | Reading 1: Basic issues in measurement  |
|  |  |  |
| January 22 | Behavior as a Scientific Datum | Reading 2: A system of behavior |
| January 24 | Behavior as a Scientific Datum | Data review |
| January 29 | Description vs. Interpretation of Behavior | Reading 3: Selection and definition of behavior |
| January 31 | **NO CLASS** | *If engaging in extra credit activities MUST sign up with Kim by Feb 1st* |
| February 5 | Behavioral Definitions | Reading 4.1: Target behaviorReading 4.2: Behavioral definitions in applied behavior analysis: Explicit or Implicit Reading 4.3: Observation methods in applied behavior analysis |
| February 7 | Behavioral Definitions The Quantified Self | Discuss Systems Project: Select behavior and write definition |
| February 12 | Dimensional Properties of Behavior  | Reading 5: Dimensional quantities and units of measurement  |
| February 14 | Dimensional Properties of Behavior | Discuss Systems Project: Select behaviors and write definitions |
| February 19 | Frequency as Fundamental Datum | Reading 6.1: Frequency of a performance as a fundamental datumReading 6.2: Frequency measures |
| February 21 | Frequency as Fundamental Datum | Discuss One Hour Observation Project 1  |
| February 26 | Cumulative Record  | Reading 7: The Cumulative Record |
| February 28 | Cumulative Record | Discuss One Hour Observation Project 1  |
| March 5 | Duration Measures | Reading 8: Duration Measures  |
| March 7 | Duration Measures | Discuss System Project: Selecting observation conditions and communicating procedures |
| March 12 | SPRING BREAK | NO CLASS – Have fun! |
| March 14 | SPRING BREAK | NO CLASS – Have fun! |
| March 18 | Interval Recording  | Reading 9: Continuous interval methods |
| March 20 | Interval Recording  | **Due: Direct Hour Observation Project 1** |
| **March 26** | **Mid-term Exam** | **Study☺** |
| March 28 | Reliability  | Reading 10: Improving ObservationDiscuss One Hour Observation Project 2  |
| April 2 | Reliability | Reading 10: Improving ObservationDiscuss One Hour Observation Project 2  |
| April 4 | Pla-Check | Reading 12: Planned activity check: Materials for training observersDiscuss System Projects: observational & reliability procedures |
| April 9 | Scatter plots | **Due: Direct Hour Observation Project 2** Reading 11: A scatter plot for identifying stimulus control of problem behavior |
| April 11 | Graphing  | Reading 13. Graphing |
| April 16 | Graphing  | Discuss implementation of the Pla-Check System |
| April 18 | Graphing  | Reading 14.1: GraphsReading 14.2: … and racketsReading 14.3 In the beginning, there was the response |
| April 23 | Graphing  | Discuss System Projects: graphing and describing |
| April 25 | Single Subject Design | Reading 15: Single Subject Design**Due: Pla-Check System Observations**  |
| **April 29** | **No class** | **Due: System Project** |
| May 2 | FINAL REVIEW with Kim | Bring questions |
| **May 7** | **FINAL** | **Final Exam 10:30 -12:30** |

READINGS

1. **Basic Issues in measurement**. In Simkins, L. D. The basis of psychology as a behavioral science (pp. 126-137). Englewood Cliffs, NJ: Prentice-Hall.

2. **A system of behavior**. In Skinner, B. F. (1938). The behavior of organisms: An experimental analysis (pp. 3-8). Englewood Cliffs, NJ: Prentice-Hall.

3. **Selection and definition of behavior**. In Ayllon, T., & Azrin, N. (1968). The token economy: A motivational system for therapy and rehabilitation (pp. 28-39). New York: Appleton-Century-Crofts.

4.1 **Target behavior**. In Ayllon, T., & Azrin, N. (1968). The token economy: A motivational system for therapy and rehabilitation (pp. 45-49). New York: Appleton-Century-Crofts.

4.2 Hawkins, R., Dobes, R. (1977). **Behavioral definitions in applied behavior analysis: Explicit or implicit.** In B.C. Etzel, J.M. LeBlanc, and D.M. Baer (Eds.), New developments in behavioral research: Theory, method, and application (165-171). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

4. 3 **Behavior definitions**. In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 33-37). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.

5. **Dimensional quantities and units of measurement**. In Jonhston, J. & Pennypacker, H. (1993). Strategies and tactics of behavioral research (pp. 91-108). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

6.1. **Frequency of a performance as a fundamental datum**. In Ferster, C., Culbertson, S., & Perrott-Boren, M. (1975). Behavior Principles (pp. 321-327). Englewood Cliffs, NJ: Prentice-Hall, Inc.

6.2 **Frequency measures**. In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 7-17). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.

7. **The cumulative record**. In Ferster, C., Culbertson, S., & Perrott-Boren, M. (1975). Behavior Principles (pp. 329-341). Englewood Cliffs, NJ: Prentice-Hall, Inc.

8. **Duration measures**. In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 18-23). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.

9. **Continuous interval methods**. In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 23-33). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.

10. Cooper, Heron, & Heward (2007) Improving and assessing the quality of behavioral measurement. In Applied Behavior Analysis(pp 102-124) Pearson

11. Touchette, P., MacDonald, R., & Langer, S. (1985). **A scatter plot for identifying stimulus control of problem behavior.** Journal of Applied Behavior Analysis, 18, 343-351.

12. Risley, T., & Cataldo, M. (1975). **Planned activity check: Materials for training observers**. Unpublished manuscript. University of Kansas.

13. **Graphing Data**. In, Alberto. P.A., & Troutmans A. C., (2013) Applied behavior analysis for teachers. (pp 106-123). Boston, MA: Pearson

14.1 **Graphs**. In Hartkopf, R. (1985). Math without tears (pp. 100-113). Boston, MA: G. K. Hall & Co.

14.2 **...and rackets**. In Hartkopf, R. (1985). Math without tears (pp. 114-125). Boston, MA: G. K. Hall & Co.

14.3 D. M. Baer (1975). **In the beginning, there was the response**. In E. Ramp & G.

 Semb. Behavior Analysis Areas of Research and Application (pp. 16-30).

 Englewood Cliffs, NJ: Prentice Hall, Inc.

15. **Single-Subject Designs**. In, Alberto. P.A., & Troutmans A. C., ( 2013) Applied

 behavior analysis for teachers. (pp 124-170). Boston, MA: Pearson