BACS 512: Single Subject Design
Fall 2016; 4 Credits

Department of Health Professions Mission Statement
Anchored in the pragmatic liberal arts tradition, the department of health professions educates students to become effective and innovative health and behavioral professionals who will satisfy the growing demand for their services.

COURSE INFORMATION

General

Class Time & Location: Tuesdays 6:45-9:15 p.m. in Bush 208
Instructor: Michele Williams, Ph.D., BCBA-D
Office: Warren Administration Building, Basement D
Phone: 407.646.2036
E-mail: AMWilliams2@Rollins.edu
Office Hours: Tuesdays/Thursdays, 3:30-6:30 p.m. or by appointment

Course Description

Course covers single subject experimental and quasi-experimental designs and relevant within-subject statistical and graphing principles. Single subject designs will be contrasted against group designs typically employed in psychological research.

Course Format

The format will be lecture, class discussions, in-class exercises, and student presentations.

Required Text

Barlow, D. H., Nock, M. K., & Hersen, M. (2009). *Single-case experimental designs: Strategies for studying behavior change* (3rd ed.) Boston: Pearson Education, Inc.

Required Primary Source Readings

Austin, J., Alvero, A. M., & Olson, R. (1998). Prompting patron safety belt usage at a restaurant. *Journal of Applied Behavior Analysis, 31,* 655-657. doi:10.1901/jaba.1998.31-655

Baron, A. (1990). Experimental designs. *The Behavior Analyst, 13,* 167-171.

Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good behavior game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis, 2,* 119-124. doi:10.1901/jaba.1969.2-119

Bollman, J. R., & Davis, P. K. (2009). Teaching women with intellectual disabilities to identify and report inappropriate staff to resident interactions. *Journal of Applied Behavior Analysis, 42,* 813-817. doi:10.1901/jaba.2009.42-813

Blum, N. J., Mauk, J. E., McComas, J. J., & Mace, F. C. (1996). Separate and combined effects of methylphenidate and a behavioral intervention on disruptive behavior in children with mental retardation. *Journal of Applied Behavior Analysis, 29,* 305-319. doi:10.1901/jaba.1996.29-305

Carr, J. E., & Briggs, A. M. (2010). Strategies for making contact with the scholarly literature. *Behavior Analysis in Practice, 3,* 13-18.

Dermer, M., & Hoch, T. A. (1999). Improving descriptions of single-subject experiments in research texts written for undergraduates. *The Psychological Record, 49,* 49-66.

Hagopian, L. P., Fisher, W. W, Thompson, R. H., Owen-DeSchryver, J., Iwata, B. A., & Wacker, D. P. (1997). Toward the development of structured criteria for interpretation of functional analysis data. *Journal of Applied Behavior Analysis, 30,* 313-326. doi:10.1901/jaba.1989.22-57

Hains, A. H., & Baer, D. M. (1989). Interaction effects in multielement designs: Inevitable, desirable, and ignorable. *Journal of Applied Behavior Analysis, 22,* 57-69. doi:10.1901/jaba.1989.22-57

Hartmann, D. P., & Hall, R. V. (1976). The changing criterion design. *Journal of Applied Behavior Analysis, 9,* 527-532. doi:10.1901/jaba.1976.9-527

Hawkins, R. P. (1991). Is social validity what we are interested in? Argument for a functional approach. *Journal of Applied Behavior Analysis, 24,* 205-213. doi:10.1901/jaba.1973.6-517

Kazdin, A. E. (1973). Methodological and assessment considerations in evaluating reinforcement programs in applied settings. *Journal of Applied Behavior Analysis, 6,* 517-531. doi:10.1901/jaba.1973.6-517

McDougall, D. (2005). The range-bound changing criterion design. *Behavioral Interventions, 20,* 129-137. doi:10.1002/bin.189

Medland, M. B., & Stachnik, T. J. (1972). Good-behavior game: A replication and systematic analysis. *Journal of Applied Behavior Analysis, 5,* 45-51. doi:10.1901/jaba.1972.5-45

Michael, J. (1974). Statistical inference for individual organism research: Mixed blessing or curse? *Journal of Applied Behavior Analysis, 7,* 647-653. doi:10.1901/jaba.1974.7-647

Mudford, O. C., Martin, N. T., Hui, J. K. Y., & Taylor, S. A. (2009). Assessing observing accuracy in continuous event recording: Three algorithms compared. *Journal of Applied Behavior Analysis, 42,* 527-539. doi:10.1901/jaba.2009.42-527

Mudford, O. C., Taylor, S. A., & Martin, N. T. (2009). Continuous recording and interobserver agreement algorithms reported in the Journal of Applied Behavior Analysis (1995-2005). *Journal of Applied Behavior Analysis, 42,* 165-169. doi:10.1901/jaba.2009.42-165

Reichle, J., Johnson, L., Monn, E., & Harris, M. (2010). Task engagement and escape maintained challenging behavior: Differential effects of general and explicit cues when implementing a signaled delay in the delivery of reinforcement. *Journal of Autism and Developmental Disorders, 40,* 709-720. doi:10.1007/s10803-010-0946-6

Quigley, S. P., Peterson, L., Frieder, J. E., & Peterson, S. (2011). Effects of a weighted vest on problem behaviors during functional analyses in children with Pervasive Developmental Disorders. *Research in Autism Spectrum Disorders, 5,* 529-538. doi:10.1016/j.rasd.2010.06.019

Repp, A., Deitz, D. D., Boles, S. M., Deitz, S. M., & Repp, C. F. (1976). Differences among common methods for calculating interobserver agreement. *Journal of Applied Behavior Analysis, 9,* 109-113. doi:10.1901/jaba.1976.9-109

Rusch, F. R., & Kazdin, A. E. (1981). Toward a methodology of withdrawal designs for the assessment of response maintenance. *Journal of Applied Behavior Analysis, 14,* 131-140. doi:10.1901/jaba.1981.14-131

Sidman, M. (2011). Can an understanding of basic research facilitate the effectiveness of practitioners? Reflections and personal perspectives. *Journal of Applied Behavior Analysis, 44,* 973-991. doi:10.1901/jaba.2011.44-973

Skinner, B. F. (1956). A case history in scientific method. *American Psychologist, 11,* 221-233.

Warnes, E., & Allen, K. D. (2005). Biofeedback treatment of paradoxical vocal fold motion and respiratory distress in an adolescent girl. *Journal of Applied Behavior Analysis, 38,* 529-532. doi:10.1901/jaba.2005.26-05

Wilson, D. M., Iwata, B. A., & Bloom, S. E. (2012). Computer-assisted measurement of wound size associated with self-injurious behavior. *Journal of Applied Behavior Analysis, 45,* 797-808. doi:10.1901/jaba.45-797

Course Learning Objectives

Upon completion of the course, students should be able to:

1. Define, give examples of, and recognize examples and non-examples in published behavior analysis research of baseline logic (prediction, verification, and replication).
2. Critique published behavior analysis research in terms of its research questions, relation to previous research, independent variables, definition and measurement of the dependent variable(s), experimental design elements, special control techniques, graphic presentation of the data, and authors' conclusions.
3. Describe the requirements, advantages, uses, and limitations of single subject designs, including the withdrawal design, reversal design, multiple baseline designs, changing criterion design, alternating treatments designs, and combinations of any of the above.
4. Define behaviors for measurement and describe methods for measuring those behaviors.
5. Conduct formative and summative evaluations of data using visual inspection procedures, descriptive statistics, and inferential statistics.
6. Describe the characteristics of data, display data graphically, and describe data by its characteristics.

ASSIGNMENTS AND GRADING CRITERIA

Quizzes

A 10-point quiz will be given at the beginning of most classes. The quizzes will be able to be taken using guided notes (the format for which will be provided on Blackboard) and the notes you take over the assigned articles. The quizzes will be timed and must be completed within 15 minutes. If you arrive late to class you will NOT be given extra time to complete the quiz, so please be prompt. No make-up quizzes will be given. ***11 quizzes at 10 points each = 110 points.***

Online Tutorial

You will complete a tutorial called "Mastering the Basics of Visual Analysis." It will take approximately 1 hour and includes a quiz with 10 questions at the end. The quiz questions will be worth 2 points each. Follow the directions below to complete the tutorial. ***20 points.***

1. Create a user account (or log in if you already have one) at Foxylearning.com
2. Purchase *Premium Access* for the tutorial listed above ($9)
3. Visit the myLearning dashboard
4. Click on the "Connect to a Course" button in the "Connected Courses" box
5. Enter this Course Connection Code: **206698**
6. Verify that the course that pops up is correct and then click the "Connect" button

If you have any technical problems, email support@foxylearning.com. ***20 points.***

Article Presentations/Critiques

Each student will present during one class over the type of design covered in that class. The student shall choose two articles for the presentation, one that is a sound representation of the relevant research design and one that is a flawed representation. (The flaw does not have to be with the design per se but can be with regard to any aspect of the study.) Students may locate an article in any journal as long as it is an example of single subject research. The student should be ready to justify why they chose each article, meaning they should be ready to explain why the study was sound or flawed. The student should provide a brief summary of the following components and should be ready to answer questions from the class. ***50 points.***

1. Identify the research question(s).
2. Describe the relation to previous research.
3. Identify the independent variable(s).
4. Provide the definition and measurement method of the dependent variable(s).
5. Identify the experimental design elements.
6. Identify any special control techniques utilized.
7. Critique the graphic presentation of the data.
8. Describe the authors' conclusions.
9. Provide your analysis of the results and whether or not you agree with the conclusions of the authors.
10. Identify at least one potential avenue of future research that was not given by the authors.

Excel Graph Assignment

You will be given four different sets of data, one set collected for each of the four main single case design types. You will be required to produce four graphs corresponding to each of the four designs: reversal, multi-element, changing criterion, and multiple baseline. *This will be an in-class assignment.* ***10 points.***

Research Proposal

You will write a brief research proposal in which you will design and describe a study aimed at answering an original research question. The proposal should include the

introduction, method, results, & discussion sections as well as graphed hypothetical data. There will be 3 intermediate steps that are worth 10 points each:

1. Topic Brainstorming Ideas – Students will bring 3 potential research topics to discuss with the class.
2. Introduction – Students will submit a draft of this section for instructor feedback.
3. Method – Students will submit a draft of this section for instructor feedback.

All written assignments must conform to APA format and are due via Blackboard. In addition, students will prepare a short (approximately 10 min) presentation of their proposal to share with the class. Students should prepare a short PowerPoint presentation to share their study. ***(3 intermediate assignments at 10 points each + 1 final paper at 100 points = 130 points)***

Final Exam

The final exam will be in essay question format and will involve the analysis of 2 separate journal articles, copies of which will be provided to you at the time of the exam. ***100 points*.**

Grading

Quizzes: 11 @ 10 points each = 110 points
Online Tutorial: 20 points
Article Presentation: 50 points
Graphing Assignment: 10 points
Research Proposal: 130 points
Exam: 100 points
Total points = 420

Grade	*Points Needed*	*Percentage*
A	376-420 points	89.5% or higher
B	334-375 points	79.5-89.4%
C	292-333 points	69.5-79.4%
F	291 points or fewer	69.4% or below

COURSE SCHEDULE

NOTE: All chapters listed below will be found in Barlow et al., 2009.

Class	Topic	Readings	Assignments
1 8/23	History & Importance of Single-Case Research	Sidman, 2011; Skinner, 1956	
2 8/30	History & Importance of Single-Case Research	*Chapter 1;* Baron, 1990; Carr & Briggs, 2010	Quiz 1
3 9/6	General Issues in a Single-Case Approach	*Chapter 2;* Dermer & Hoch, 1999	Quiz 2
4 9/13	General Procedures in a Single-Case Approach	*Chapter 3;* Kazdin, 1973	Quiz 3; *Online Tutorial Due*
5 9/20	Behavior Assessment	*Chapter 4;* Hawkins, 1991; Wilson et al., 2012	Quiz 4; *Topics Due*
6	Basic ABA Withdrawal	*Chapter 5;* Blum et al., 1996;	Quiz 5; *Student*

9/27	Designs	Rusch & Kazdin, 1981	*Presentations*
7 10/4	Extensions of the ABA Design	*Chapter 6;* Austin et al., 1998; Hartman & Hall, 1976; McDougall, 2005; Warnes & Allen, 2005	Quiz 6; *Student Presentations*
8 10/11	Multiple Baseline Designs	*Chapter 7;* Barrish et al., 1969; Bollman & Davis, 1969	Quiz 7; *Student Presentations*
9 10/18	Alternating Treatments Designs	*Chapter 8;* Quigley et al., 2011; Reichle et al., 2010	Quiz 8; *Student Presentations*
10 10/25	Statistical Analyses for Single-Case Experiments	*Chapter 9;* Hagopian et al., 1997; Michael, 1974	Quiz 9; *Proposal Intro Due*
11 11/1	Direct, Systematic, & Clinical Replication	*Chapter 10;* Medland & Stachnik, 1972	Quiz 10
12 11/8	Reliability & Generality of Data (External Validity)	Mudford, Martin et al., 2009; Mudford, Taylor et al., 2009; Repp et al., 1976	Quiz 11; *Proposal Method Due*
13 11/15	Graphing		*In-Class Assignment*
11/22	*THANKSGIVING BREAK*		
14 11/29	Student Research Proposal Presentations		*Research Proposal Due*
15 12/6	*FINAL EXAM*		

EXPECTATIONS AND POLICIES

Credit Hour Statement

Policy AC 2000: adopted 4/7/16

Rollins College offers four-credit-hour courses that provide three hours of direct or indirect instructional contact. The value of four credit hours reflects the substantial individual attention each student receives from instructors as well as additional out-of-class activities. Faculty require that students undertake at least 7.5 hours of outside work per week, averaged over the course's duration and equaling 2½ hours of outside work for every one hour of scheduled class time. In this course, the additional outside-of-class expectations are: doing the assigned readings, preparing discussion questions, studying for the quizzes, and writing the final paper.

Attendance

Students are expected to attend each class and to arrive on time. A key factor in student success is class attendance, which can't be easily replaced by copying someone else's notes or my slides. If you must miss a class, you are responsible for finding a reliable student to take notes for you and to give you the details that you missed. Students are responsible for all material, including changes to the syllabus or objectives that are presented in class. Students are welcome to meet with the instructor during office hours or to set up an appointment outside of the established office hours to discuss the material.

Disability Services

Rollins College is committed to equal access and inclusion for all students, faculty and staff. The Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 create a foundation of legal obligations to provide an accessible educational environment that does not discriminate against persons with disabilities. It is the spirit of these laws which guides the college toward expanding access in all courses and programs, utilizing innovative instructional design, and identifying and removing barriers whenever possible.

If you are a person with a disability and anticipate needing any type of academic accommodations in order to fully participate in your classes, please contact the Disability Services Office, located in the Mills Memorial Building, Room 217, as soon as possible. You are encouraged to schedule a Welcome Meeting by filling out the "First Time Users" form on the website: http://www.rollins.edu/disability-services/ and/or reach out by phone or email: 407-975-6463 or Access@Rollins.edu.

All test-taking accommodations requested for this course must first be approved through the Disability Services Office (DSO) and scheduled online through Accommodate at least 72 hours before the exam. Official accommodation letters must be received by and discussed with the faculty in advance. There will no exceptions given unless previously approved by the DSO with documentation of the emergency situation. We highly recommend making all testing accommodations at the beginning of the semester. DSO staff are available to assist with this process.

Title IX Statement (updated 7/12/16)

Rollins College is committed to making its campus a safe place for students. If you tell any of your faculty about sexual misconduct involving members of the campus community, your professors are required to report this information to the Title IX Coordinator. Your faculty member can help connect you with the Coordinator, Oriana Jiménez (TitleIX@rollins.edu or 407-691-1773). She will provide you with information, resources and support. If you would prefer to speak to someone on campus confidentially, please call the Wellness Center at 407-628-6340. They are not required to report any information you share with the Office of Title IX.

Sexual misconduct includes sexual harassment, stalking, intimate partner violence (such as dating or domestic abuse), sexual assault, and any discrimination based on your sex, gender, gender identity, gender expression or sexual orientation that creates a hostile environment. For information, visit http://www.rollins.edu/titleix/

Academic Honor Code Reaffirmation

http://www.rollins.edu/college-of-arts-and-sciences/documents/academic-honor-code-rollins-college.pdf

Membership in the student body of Rollins College carries with it an obligation, and requires a commitment, to act with honor in all things. The student commitment to uphold the values of honor - honesty, trust, respect, fairness, and responsibility - particularly manifests itself in two public aspects of student life. First, as part of the

admission process to the College, students agree to commit themselves to the Honor Code. Then, as part of the matriculation process during Orientation, students sign a more detailed pledge to uphold the Honor Code and to conduct themselves honorably in all their activities, both academic and social, as a Rollins student. A student signature on the following pledge is a binding commitment by the student that lasts for his or her entire tenure at Rollins College.

The development of the virtues of Honor and Integrity are integral to a Rollins College education and to membership in the Rollins College community. Therefore, I, a student of Rollins College, pledge to show my commitment to these virtues by abstaining from any lying, cheating, or plagiarism in my academic endeavors and by behaving responsibly, respectfully and honorably in my social life and in my relationships with others. This pledge is reinforced every time a student submits work for academic credit as his/her own. Students shall add to the paper, quiz, test, lab report, etc., the handwritten signed statement:

"On my honor, I have not given, nor received, nor witnessed any unauthorized assistance on this work."

Material submitted electronically should contain the pledge; submission implies signing the pledge.

Course and Instructor Evaluation

At the end of each semester, students are asked to evaluate the course and instructor. These evaluations are extremely valuable in the teaching and learning process on our campus. Student evaluations help assess student perceptions of classroom learning and often lead to improved teaching. Your feedback is important and Rollins students are encouraged to be honest, fair, and reflective in the evaluation process. The online evaluative survey is anonymous. Students are never identified as the respondent. Instead, each student's comments are assigned a random number. You will be asked to rate your course and instructor on a numerical scale and through narrative comments.

The online Course and Instructor Evaluation (CIE) process opens at 8:00 a.m. on the first scheduled date. It remains open for a period of 14 days (2 weeks) until 12:00 a.m. (midnight) on the final scheduled date. The evaluation period ends prior to the start of final examinations and faculty cannot access completed evaluations until 10 days after the end of final exams. Students will receive one email at the start of the CIE period, one after the 15th day, and a final reminder the day before the CIE period ends. Students who complete evaluations for all classes will be able to view grades 10 days before students who do not complete an evaluation form.