



**College of Education and Human Development
Division of Special Education and disAbility Research**

Fall 2023

EDSE 621 001: Applied Behavior Analysis: Empirical Bases

CRN: 70645, 3 – Credits

Instructor: Lisa Tullo	Meeting Dates: 8/21/23 – 12/13/23
Phone: (703) 993-6589	Meeting Day(s): Wednesday
E-Mail: ltullo@gmu.edu	Meeting Time(s): 7:20 pm – 10 pm
Office Hours: by appointment	Meeting Location: Fairfax; KH 15
Office Location: Zoom or Suite 100, Finley Building	Other Phone: N/A

Note: This syllabus may change according to class needs. Teacher Candidates/Students will be advised of any changes immediately through George Mason e-mail and/or through Blackboard.

Prerequisite(s):

EDSE 619 with a grade of B- or XS (may be taken concurrently).

Co-requisite(s):

None

Course Description

Focuses on measurement, data display, data interpretation, and experimental design in applied behavior analysis. Prepares candidates to design and use data collection systems, apply data-based decision making, and appropriately deploy single-subject experimental designs in applied situations. Enables candidates to become informed consumers of behavior analytic research.

Course Overview

Focuses on measurement, data display, data interpretation, and experimental design in applied behavior analysis. Prepares candidates to design and use data collection systems, apply data-based decision making, and appropriately deploy single-subject experimental designs in applied situations. Enables candidates to become informed consumers of behavior analytic research.

Advising Contact Information

Please make sure that you are being advised on a regular basis as to your status and progress in your program. Students in Special Education and Assistive Technology programs can contact the Special Education Advising Office at 703-993-3670 or speced@gmu.edu for assistance. All other students should refer to their assigned program advisor or the Mason Care Network (703-993-2470).

Advising Tip

All students should have a program plan to follow. Check your plan each semester when registering. Email speced@gmu.edu for details.

Course Delivery Method

Learning activities include the following:

1. Class lecture and discussion
2. Application activities
3. Small group activities and assignments
4. Video and other media supports
5. Research and presentation activities
6. Electronic supplements and activities via Blackboard

Learner Outcomes

Upon completion of this course, teacher candidates/students will be able to:

1. Establish operational definitions of behavior.
2. Distinguish among direct, indirect, and product measures of behavior.
3. Measure occurrence (frequency, rate, percentage), temporal dimensions (duration, latency, interresponse time), form and strength (topography, magnitude), and trials to criterion.
4. Design and implement sampling procedures (i.e., interval recording, time sampling).
5. Evaluate the validity and reliability of measurement procedures.
6. Select a measurement system to obtain representative data given the dimensions of behavior and the logistics of observing and recording.
7. Graph data to communicate relevant quantitative relations (e.g., equal interval graphs, bar graphs, cumulative records, standard celeration charts).
8. Interpret graphed data.
9. Distinguish between dependent and independent variables, and between internal and external validity.
10. Identify defining features of single-subject experimental design (e.g., individuals serve as their own controls, repeated measures, prediction, verification, and replication).
11. Describe advantages of single-subject experimental designs compared to group designs.
11. Use single-subject experimental designs.
12. Describe rationales for conducting comparative, component, and parametric analyses.

Professional Standards

This course is part of the George Mason University, School of Education, Special Education Program for Applied Behavior Analysis Graduate Certificate. The content of the courses in this

program is derived from the Task List published by the national Behavior Analyst Certification Board (BACB) as well as the Ethics Code for Behavior Analysts. The Ethics Code for Behavior Analysts is listed on the following website: <https://www.bacb.com/wp-content/uploads/2020/11/Ethics-Code-for-Behavior-Analysts-2102010.pdf>. For more information on the Board and the examination, please visit the Board's website at www.bacb.com.

Required Texts

Cooper, J. O., Heron, T. E., & Heward, W. L. (2019). *Applied Behavior Analysis* (3rd ed). Upper Saddle River, NJ: Merrill/Prentice Hall. ISBN 0134752554. Foxx, R. M., & Mulick, J. A. (2015).

Foxx, R. M., & Mulick, J. A. (2015). *Controversial therapy for autism and intellectual disabilities: Fad, fashion, and science in professional practice* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315754345>

Ledford, J.R., & Gast, D.L. (Eds.). (2018). *Single Case Research Methodology: Applications in Special Education and Behavioral Sciences* (3rd ed.). Routledge. <https://doi.org/10.4324/9781315150666> **DO NOT BUY**- free online resource through the GMU bookstore.

Recommended Texts

American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). <https://doi.org/10.1037/0000165-000>

Additional Readings

Additional articles will be provided on Blackboard.

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, VIA, hard copy).

VIA Performance-Based Assessment Submission Requirement

No upload requirement.

Assignments and/or Examinations

Final Exam: 70 points. A final exam is used to test knowledge of measurement and experimental design concepts. Half of the exam will be multiple choice and half of the exam will be written.

Group research assignments: Each module you will complete a research related assignment with a group of peers primarily during class. This will involve examining and analyzing data from published studies and creating an extension of the literature (10 points each, 7 assignments). This will culminate in a group project and presentation of the research extension (30 points).

Single Case Analysis Project: Throughout the semester (10 points each, 7 assignments, you will collect and graph data on your own progress in learning how to analyze single case graphs. This will give practice implementing a single case research design using multiple baselines. The project will include analyzing single case graphs with different designs. This will culminate with a paper reviewing the procedure and results (30 points).

Problem Sets. You will complete these per instructions contained on each problem set. A total of 10 points is possible for each correctly completed Problem Set. Incorrect responses may be corrected and resubmitted once for credit. (10 points each, 5 sets)

Quizzes. You will complete one quiz each for Modules 1 through 7. Each quiz question is worth 1 possible point. Quizzes may be taken twice, with the higher quiz score counting toward your grade. Quizzes will be timed, with the amount of time permitted for the quiz equal to 1.5 minutes multiplied by the number of quiz question. (1p points each, 70 points)

Controversial Therapies Discussion: You will choose 2 chapters to read and discuss during an asynchronous Controversial Therapies book discussion. During this discussion you will summarize the chapters, offer discussion questions, and provide additional resources. You will also respond to your peers. (20 points)

CITI Module: 10 points. The CITI Program is an on-line training program on the principles, regulations, and rules governing the practice of research. Students will complete the Basic CITI Responsible Conduct of Research Module recommended for anyone conducting research at GMU. These modules are available through <https://about.citiprogram.org/en/course/responsible-conduct-of-research-basic/>. When you have completed the basic course modules, you will receive a Completion Report. Upload the certificate of completion in the assignment link.

Assignment Summary

Item	Number	Point per Assignment	Total Points
Syllabus Quiz	1	10	10
Group Research Assignments	7	10	70
Group Research Final Project and Presentation	1	30	30
Module Quizzes	7	10	70
Problem Sets	5	10	50
WWC Modules	1	15	15
CITI Training	1	10	10
CT Discussion	1	20	20
Single Case Analysis Project Assignments	7	10	70
Single Case Analysis Project Final	1	30	30

Final Exam	1	70	70
Total Course Points			445

Student Evaluations of Teaching:

The student evaluation of teaching, or SET, is an online course survey. You are strongly encouraged to complete this form for each course as this feedback helps instructors and administrators improve your class experiences. Towards the end of the course, you will receive email and Blackboard notifications when the evaluations open. Your anonymous and confidential feedback is only shared with instructors after final grades have been submitted. More information about the SET can be found on The Institute of Effectiveness and Planning website at <https://oiep.gmu.edu/set/>

Course Policies and Expectations

Attendance/Participation

You are expected to arrive on time for all class sessions, attend all class sessions, remain in class for the duration of each session, and to participate actively throughout the session. Some course materials will be available on Blackboard for those who either missed class or need additional time with the materials. If you do miss class, you may also contact a classmate regarding notes and other activities that took place in your absence.

You are expected to communicate promptly and respectfully with assigned groupmates. One additional point will be granted for each draft, research worksheet, and EDRE project for each group member, when that assignment has been submitted on time, with participation of each group member. (As indicated in assignment instructions on Blackboard, group members participating in an assignment will list their names and coparticipating groupmate names atop the first page of the submission. Only group members whose names are listed will receive the participation point for a submission.)

Late Work

Work is considered on time if it is submitted by 11:59 p.m. (ET) on the date that it is due. Late work will only be accepted when prior arrangement has been made with the instructor.

Grading

Traditional rounding principles apply.

93-100% = A

90-92% = A-

87-89% = B+

83-86% = B

80 – 82% = B-

70 – 79% = C

***Note:** The George Mason University Honor Code will be strictly enforced. See [Academic Integrity Site](https://oai.gmu.edu/) (<https://oai.gmu.edu/>) and [Honor Code and System](https://catalog.gmu.edu/policies/honor-code-system/) (<https://catalog.gmu.edu/policies/honor-code-system/>). Students are responsible for reading and understanding the Code. “To promote a stronger sense of mutual responsibility, respect, trust,

and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.” Work submitted must be your own new, original work for this course or with proper citations.

Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times. See [Policies and Procedures \(https://cehd.gmu.edu/students/policies-procedures/\)](https://cehd.gmu.edu/students/policies-procedures/).

Class Schedule

*Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Module	Date	Topics (in class)	Assignments/Activities
Module 1	Week 1 8/23/2022	<ul style="list-style-type: none"> Review Syllabus Introduction to observation, measurement, & single-subject design Group Assignments Dependent and Independent Variables 	Read by class: <ul style="list-style-type: none"> Syllabus Due in class <ul style="list-style-type: none"> Syllabus Quiz (in class)
	Week 2 8/30/2022	<ul style="list-style-type: none"> Reading behavior analytic research Measurement – Why bother? Defining dependent variables Social Validity 	Read: <ul style="list-style-type: none"> CT Ch 1-2 ABA Ch. 7, 4 SCRD Ch. 1 Due: <ul style="list-style-type: none"> Group Research Assignment 1 Single Case Project Module 1
Module 2	Week 3 9/6/2022	<ul style="list-style-type: none"> Direct Measures of Behavior: count, cumulative count, duration, rate, latency, interresponse time, extensity, intensity Reliability and Interobserver agreement for direct measures of behavior Continuous and discontinuous measurement 	Read: <ul style="list-style-type: none"> ABA Ch. 5 CT Ch. 3-4 Articles on BB as assigned Due: <ul style="list-style-type: none"> Quiz 1 Group Research Assignment 2 (completed in class)
	Week 4 9/13/2022		Read: <ul style="list-style-type: none"> CT Ch 5-6 Articles on BB as assigned Due: <ul style="list-style-type: none"> Problem Set 1 Single Case Project Module 2
	Week 5	<ul style="list-style-type: none"> Indirect Measures of Behavior: 	Read:

Module 3	9/20/2022 Virtual Class	<ul style="list-style-type: none"> accuracy, intensity, trials to criterion, percentage, percentage occurrence, percentage intervals occurrence, permanent products, and other estimates Reliability and interobserver agreement for indirect measures of behavior Continuous and discontinuous measurement Selecting appropriate measures General data collection issues 	<ul style="list-style-type: none"> ABA review Ch. 4-5 CT (sign up for 1 chapter from Part II/IV and 1 chapter from Part V) Articles on BB as assigned <p>Due:</p> <ul style="list-style-type: none"> Quiz 2
	Week 6 9/27/2022		<p>Read</p> <ul style="list-style-type: none"> CT Ch 6 ABA Ch 6, pp 124-145 Articles on BB as assigned <p>Due:</p> <ul style="list-style-type: none"> Problem Set 2 Group Research Assignment 3 (completed in class) Single Case Project Module 3
Module 4	Week 7 10/4/2022	<ul style="list-style-type: none"> Visual interpretation of time series analysis data How to graph How to read a graph 	<p>Read:</p> <ul style="list-style-type: none"> SCRD Ch. 7-8 Articles on BB as assigned <p>Due:</p> <ul style="list-style-type: none"> Single Case Analysis Test 2 Quiz 3
	Week 8 10/11/2022		<p>Read:</p> <ul style="list-style-type: none"> Articles on BB as assigned <p>Due:</p> <ul style="list-style-type: none"> Problem Set 3 Group Research Assignment 4 (completed in class) Problem Set 4: SCC assignment (in class) Single Case Project Module 4
Module 5	Week 9 10/18/2022	<ul style="list-style-type: none"> Single subject (Time Series Analysis) Designs Withdrawal Designs (AB, ABA, ABAB, BAB, etc.) Alternating Treatments Design Pairwise Comparison Design 	<p>Read:</p> <ul style="list-style-type: none"> ABA Ch. 8-9 SCRD Ch. 9 Articles on BB as assigned <p>Due:</p> <ul style="list-style-type: none"> Quiz 4

		<ul style="list-style-type: none"> Treats to internal validity with these designs 	
	Week 10 10/25/2022		Read: <ul style="list-style-type: none"> ABA: Ch 10 SCRD Ch. 11 Articles on BB as assigned Due: <ul style="list-style-type: none"> Single Case Project Module 5 Group Research Assignment 5 (completed in class)
Module 6	Week 11 11/1/2022	<ul style="list-style-type: none"> Multiple Baseline Designs Changing Criterion Design Simultaneous Treatments Design Threats to internal validity 	Read: <ul style="list-style-type: none"> ABA Ch 9 SCRD Ch. 10 Articles on BB as assigned Due: <ul style="list-style-type: none"> Quiz 5
	Week 12 11/8/2022		Read: <ul style="list-style-type: none"> CT Ch. 20-22 SCRD CH. 13-14 Articles on BB as assigned Due: <ul style="list-style-type: none"> Problem Set 5 WWC Modules Group Research Assignment 6 (completed in class) Single Case Project Module 6
Module 7	Week 13 11/15/2022	<ul style="list-style-type: none"> Combining measurement and design elements to solve complex problems Measuring choice, preference, and psychiatric symptoms Behavior Analytic Literature Research Ethics General Issues in Measurement and Experimental Design Review of Designs, Functional Control, and Internal Validity 	Read: <ul style="list-style-type: none"> ABA Ch. 10 SCRD Ch. 2, 12 Articles on BB as assigned Due: <ul style="list-style-type: none"> Quiz 6 Group Research Assignment 7 (completed in class)
	11/22/2022	Thanksgiving recess; no class	
	Week 14 11/29/2022	<ul style="list-style-type: none"> Final Project Presentations CT Discussion 	Read: <ul style="list-style-type: none"> CT Ch. 25, 26, 29 Articles on BB as assigned

	Last Day of Class!		Due: <ul style="list-style-type: none"> • CITI Module • Module 7 Reflection Paper • Group Research Presentation (in class) • Single Case Project Module 7
	Week 15 12/6/2022	<ul style="list-style-type: none"> • Final Exam • Submit Final Group Research Projects • Submit Final Single Case Project 	Due: <ul style="list-style-type: none"> • Final Group Research Projects • Final Exam • Final Single Case Analysis Projects

Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: See [Core Values](http://cehd.gmu.edu/values/) (<http://cehd.gmu.edu/values/>).

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code. See [Honor Code and System](https://catalog.gmu.edu/policies/honor-code-system/) (<https://catalog.gmu.edu/policies/honor-code-system/>).
- Students must follow the university policy for Responsible Use of Computing. See [Responsible Use of Computing](http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/) (<http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor. See [Disability Services](https://ds.gmu.edu/) (<https://ds.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to VIA should be directed to viahelp@gmu.edu or <https://cehd.gmu.edu/aero/assessments>.
- Questions or concerns regarding use of Blackboard should be directed to [Blackboard Instructional Technology Support for Students](https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/) (<https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/>).
- [Learning Services \(learningservices@gmu.edu\)](mailto:learningservices@gmu.edu) - Provides a variety of experience-based learning opportunities through which students explore a wide range of academic concerns. Services include support to students with learning differences, individual study strategy coaching, individualized programs of study, and referrals to tutoring resources. Presentations on a variety of academic topics such as time management, reading, and note taking are available to the university community. The programs are open to all George Mason University students free of charge.

Notice of mandatory reporting of sexual assault, sexual harassment, interpersonal violence, and stalking:

As a faculty member, I am designated as a “Non-Confidential Employee,” and must report all disclosures of sexual assault, sexual harassment, interpersonal violence, and stalking to Mason’s Title IX Coordinator per [University Policy 1202](#). If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as the [Student Support and Advocacy Center \(SSAC\)](#) at 703-380-1434 or [Counseling and Psychological Services \(CAPS\)](#) at 703-993-2380. You may also seek assistance or support measures from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

For additional information on the College of Education and Human Development, please visit our website [College of Education and Human Development \(http://cehd.gmu.edu/\)](http://cehd.gmu.edu/).

Appendix

Assessment Rubric(s)

The final exam and the Single Case Project are the signature assessments for this course. Scores on these will be used for program evaluation instead of a rubric.