



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

Fall 2021

EDSE 621 001: Applied Behavior Analysis: Empirical Bases

CRN: 71334, 3 – Credits

Instructor: Dr. Barbara Kaminski	Meeting Dates: 8/23/2021 – 12/15/2021
Phone: 703-987-0132	Meeting Day(s): Wednesday
E-Mail: bkamins2@gmu.edu	Meeting Time(s): 7:20 pm – 10 pm
Office Hours: by appointment	Meeting Location: Fairfax; KH 17
Office Location: as arranged via appointment	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

Have you met with an advisor? All students should make an appointment to meet with an advisor to outline a plan for completing coursework and non-course requirements such as testing. To make an appointment by phone or in person, go to <http://gse.gmu.edu/special-education/advising/>.

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

Professional Standards

Professional Standards (Behavior Analyst Certification Board (BACB), Professional and Ethical Compliance Code for Behavior Analysts) The content of the course is derived from the Task List published by the national Behavior Analyst Certification Board (BACB) as well as the Professional and Ethical Compliance Code for Behavior Analysts. The Professional and Ethical Compliance Code for Behavior Analysts is listed on the following website:

<http://bacb.com/wpcontent/uploads/2016/03/160321-compliance-code-english.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). *Controversial therapy for autism and Intellectual disabilities: Fad, fashion, and science in professional practice* (2nded.).Routledge.
<https://doi.org/10.4324/9781315754345>

Recommended Texts

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

Required Resources

Go to the Behavior Analyst Certification Board website (www.bacb.com) and download the 5th edition Task List as a reference resource for this course.

Additional Readings

Labott, S. M., & Johnson, T. P. (2004). Psychological and social risks of behavioral research. *IRB: Ethics & Human Research*, 26, 11-15.

Malott, R. W. (2002). Notes from a radical behaviorist: Is it morally defensible to use the developmentally disabled as guinea pigs? *Behavior and Social Issues*, 11, 105- 106.

Additional readings may be assigned based on need. They will be announced in class and added to Blackboard.

Course Performance Evaluation

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

Assignments and/or Examinations

Final Exam: 50 points. A 50-item final exam is used to test knowledge of measurement and experimental design concepts. Each correct response to a multiple choice question will earn 1 point. Each correct response on the graphing portion of the test will also earn one point.

Experimental Design Replication and Extension Project (EDRE): 30 points. This is one of two group assignments in this course. You will be assigned to a group during the first week of the course. Your group will be given an article related to ABA (see also Research Worksheet below). Your group will develop a replication and extension study and will submit a draft of the assigned components for feedback, as indicated in the course calendar. These components are:

- Development of the experimental question to be examined by the replication and extension experiment, based on the recommendations in the discussion section of the original study.
- Operational definition of the dependent variable.
- Development of a measurement system for the dependent variable.
- Specification of the independent variable(s).
- Selection of a single subject experimental design that will permit examination of the experimental question.
- Step by step procedural implementation instructions for the independent variable(s) in the context of the selected single subject experimental design.
- Step by step procedural instructions (including calculations) for determining interobserver agreement for the dependent variable.
- Step by step procedural instructions (including calculations) for determining procedural fidelity (or treatment integrity) for the independent variable.

EDRE Drafts. 12 points (6 @ 2 points each). Drafts will be cumulative in nature, will incorporate editorial feedback provided by the instructor, and will be worth 2 points per draft. During the last week of the course, the group will assemble all of the drafts (and make all recommended editorial changes) into one single project and will submit this as assigned.

Performance-based Common Assignments

Research Worksheet. 10 points. As a precursor to the EDRE project, your group will complete a research worksheet. Your group will be assigned the article (and it will also serve as the basis of your EDRE project, thereby providing a sound basis on which to develop the replication and extension study required for the project). The research worksheet is worth up to 10 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 up to ½ credit for each corrected response.* Corrected problem sets will be accepted up to the time of the final examination; none will be accepted afterward. Due dates are indicated in the class schedule.

Quizzes. You will complete quizzes as specified in the course calendar, below. 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 questions.

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.

Reflection Papers. In conjunction with your readings from *Controversial Therapies for Autism and Developmental Disabilities*, you will complete a 1- page Reflection Paper based on the given prompt for each reading assignment. Prompts will be provided on Blackboard. You will earn up to 5 points for each Reflection Paper. Due dates are indicated in the class schedule.

Attendance. A sign-in sheet will be circulated at the beginning of each session. Each student signing in will receive 2 points for attendance.

Signing in after the sheet has been returned to the instructor (e.g., arriving late) will earn 1 point. One excused absence will be allowed per semester. This excused absence will not result in loss of attendance points. To be considered excused, you must contact the instructor as soon as possible and you must have a valid excuse. Other than the one excused attendance, missed attendance points may not be made up. Perfect Attendance will be awarded 2 extra credit points at the end of the semester.

Assignment Summary

Assignment Type	Number of Instances	Points per Instance	Total Assignment Type
Final Exam	1 exam	50 points	50 points
EDRE Project	1 project	30 points	30 points
EDRE Project Drafts	6 drafts	2 points	12 points
Participation – EDRE Project	1 project	1 point	1 point
Participation – EDRE Project Drafts	6 drafts	1 point	6 points
Research Worksheet	1 wksheet	10 points	10 points
Research Worksheet Participation	1 wksheet	1 point	1 point
Problem Sets	4 sets	10 points	40 points
Quiz Questions	13 quizzes	10 points	130 points
CITI Module	1 module	10 points	10 points
Reflection Papers	12 papers	5 points	60 points
Attendance	13 weeks	2 points	26 points
Total points			376 points

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 co-participating 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. Latework will only be accepted when prior arrangement has been made with the instructor.

Other Requirements

Inclement Weather Procedures.

If GMU is closed due to weather conditions, class will be canceled. If GMU is not closed but, in your judgment, travel poses a substantial risk, you may choose to skip class as an excused absence.

Electronics

Cell phones must be turned off and/or set on vibrate. Computers are allowed for note taking and course-related work ONLY.

Grading

Traditional rounding principles apply.

93-100% = A 90-92% = A- 87-89% = B+ 83-86% = B
80 – 82% = B- 70 – 79% = C <70% = F

A = 350-376 Points	A- = 338-349 points	B+ = 327-337 points	B = 312-326 points	B- = 301-311 points	C = 262-300 points	F ≤ 262 points
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***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.**

CT = Controversial Therapies for Autism and Intellectual Disabilities (Foxy & Mulick)

ABA = Applied Behavior Analysis (Cooper, Heron, Heward)

Date	Topics (in class)	Assignments / Activities
Week 1 8/25/21	Review Syllabus; course introduction; application versus research	Read: <ul style="list-style-type: none"> • Syllabus • Quiz 1 (syllabus)
Week 2 9/1/21	Introduction to observation, measurement; identifying and defining target behaviors; how to complete a research worksheet	Read: <ul style="list-style-type: none"> • <u>CT</u> Ch 1 • <u>ABA</u> Ch 3, pp. 73 – 83 Due: <ul style="list-style-type: none"> • Reflection Paper #1 • Quiz 2
Week 3 9/8/21	Measurement in applied behavior analysis: definition, function, and dimensions (and their measures)	Read: <ul style="list-style-type: none"> • <u>CT</u> Ch 2 and 3 • <u>ABA</u> Ch 4. pp. 73 – 83 Due: <ul style="list-style-type: none"> • Reflection Paper #2 • Research Worksheet • Quiz 3
Week 4 9/15/21	Measurement – Methods for Measuring Behavior	Read: <ul style="list-style-type: none"> • <u>CT</u> Ch 4 • <u>ABA</u> Ch 4, pp 83-98 Due: <ul style="list-style-type: none"> • Reflection Paper #3 • Problem Set 1 • EDRE draft #1 • Quiz 4

Week 5 9/22/21	Measurement – Improving and assessing the quality of measurement; accuracy, believability, reliability, interobserver agreement (IOA)	Read: <ul style="list-style-type: none"> • <u>CT</u> Ch 5 & 8 • <u>ABA</u> Ch 5 Due: <ul style="list-style-type: none"> • Reflection Paper #4 • EDRE draft #2 • Quiz 5
Week 6 9/29/21	Visual interpretation of time series analysis data, how to graph, how to read a graph	Read <ul style="list-style-type: none"> • <u>CT</u> Ch 6 • <u>ABA</u> Ch 6, pp 124-145 Due: <ul style="list-style-type: none"> • Reflection Paper #5 • Problem Set #2 • Quiz 6
Week 7 10/6/21	Analyzing Behavior Change; Introduction to Research Design: Baseline logic, Single subject design	Read: <ul style="list-style-type: none"> • <u>CT</u> Ch 7 • <u>ABA</u> Ch 6, pp. 145-152 & Ch 7 Due: <ul style="list-style-type: none"> • Reflection Paper #6 • Problem Set #3 • Quiz 7
Fall Break 10/1/21		
Week 8 10/20/21	Withdrawal Designs (AB, ABA, ABAB, BAB, etc.); Component Analysis; Parametric Analysis	Read: <ul style="list-style-type: none"> • <u>CT</u> Ch 11 • <u>ABA</u> Ch 8, pp. 171-180 Due: <ul style="list-style-type: none"> • Reflection Paper #7 • EDRE draft #3 • Quiz 8
Week 9 10/27/21	Alternating Treatments Designs and Pairwise Comparison Designs; Measuring choice, preference, and other phenomena	Read: <ul style="list-style-type: none"> • <u>CT</u> CH 12 - 13 • <u>ABA</u> Ch 8, pp 180-191 Due: <ul style="list-style-type: none"> • Reflection Paper #8 • Quiz 9
Week 10 11/3//21	Multiple Baseline Designs & Changing Criterion Design; Combining measurement and design elements to solve complex problems	Read: <ul style="list-style-type: none"> • <u>CT</u> ANY from Ch 15-24 • <u>ABA</u>: Ch 9 Due: <ul style="list-style-type: none"> • Reflection Paper #9 • Quiz 10

Week 11 11/10/21	Threats to Internal Validity	Read: <ul style="list-style-type: none"> • <u>CT</u> ANY from Ch 15-24 • <u>ABA</u> Ch 10 Due: <ul style="list-style-type: none"> • Reflection Paper #10 • EDRE draft #4 • Quiz 11
Week 12 11/17/21	Being an educated research consumer: Evaluating published research, finding research relevant to behavior problems; Research Ethics	Read: <ul style="list-style-type: none"> • <u>CT</u> Chp 25 & 27 • Labbott & Johnson (2004); Malott (2002) Due: <ul style="list-style-type: none"> • Reflection Paper #11 • Problem Set #4 • EDRE draft #5 • Quiz 12
Week 13 11/24/19	NO CLASS! THANKSGIVING	
Week 14 12/1/21	General Issues in Measurement and Experimental Design – Review of Designs and Functional Control	Read: <ul style="list-style-type: none"> • <u>CT</u> Ch 26 & 29 Due: <ul style="list-style-type: none"> • Reflection Paper #12 • EDRE draft #6 • Quiz 13
Week 15 12/8/21	Final Exam – must complete online (Blackboard) no later than 11:59 pm USEastern Time on 12/8/21.	Due (all due by 11:59 on 12/8): Final Exam EDRE Final Project Any revised problem sets

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 either Tk20 or VIA should be directed to <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/).

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

- As a faculty member, I am designated as a “non-confidential employee” and must report all disclosures of sexual assault, 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 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 from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing the [Title IX Coordinator \(titleix@gmu.edu\)](mailto:titleix@gmu.edu).
- **For information on student support resources on campus, see [Student Support Resources on Campus \(https://ctfe.gmu.edu/teaching/student-support-resources-on-campus\)](https://ctfe.gmu.edu/teaching/student-support-resources-on-campus).**
- 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

The final exam is the signature assessment for this course. Scores on the exam will be used for program evaluation instead of a rubric.