



**ABA Graduate Certificate Program**  
PSY 550: Research in Applied Settings  
Spring/Summer 2019

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**Office hours:** By appointment  
**Meeting location:** Online through Blackboard

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### **COURSE DESCRIPTION**

This course focuses on behavioral research methodologies to evaluate interventions in applied settings. Students will be taught to use single-case study methodologies to assess various dimensions of behavior and to evaluate the effects of treatment interventions on those behaviors.

### **COURSE OBJECTIVES**

Upon successful completion of this course, students will be able to:

1. Describe rationale and process for evaluating interventions implemented in applied settings.
2. Understand the similarities and differences between single subject and group designs.
3. Select single-case designs based on a research or treatment question.
4. Use single-subject experimental design to develop methods to evaluate the effectiveness of interventions.
5. Explain the process of visual data analysis and interpret graphically represented data.
6. Demonstrate an understanding of ethical principles in research and treatment evaluation.
7. Analyze and draw inferences from applied research articles that depict the use of various treatment designs.
8. Discretionary objectives

<b>BACB 5<sup>th</sup> Edition Task List</b>		
<b>Section 1: Foundations</b>	<b>Task List Items</b>	<b>Content Hours</b>
C: Measurement, Data Display, and Interpretation	C-1-11	25 hours
D: Experimental Design	D-1-6	20 hours

<b>Learning Unit</b>	<b>Task List Items</b>	<b>Content Hours</b>
Unit 1: Understanding and Using Experimental Control	D-1-4	15 hours
Unit 2: Measurement	C-1-9	
Unit 3: Reversal and Alternating Treatments Designs	C-10, D-5	15 hours
Unit 4: Multiple Baseline, Multiple Probe, and Changing Criterion	C-10, D-5	
Unit 5: Evaluating Single Subject Designs	C-11, D-6	15 hours
Unit 6: Interpreting and Presenting Data	C-10, C-11, D-5, D-6	

## **READING MATERIALS**

A selection of articles and chapters will be available on Blackboard. There is no required textbook for this course.

## **REQUIRED EQUIPMENT (owned or accessible)**

- High-speed internet access
- Computer with a sound card and speakers; operating system that meets current Blackboard browser requirements (see below)
- Microphone (built in or external)
- Computer camera for videoconference, synchronous meetings (most laptops have a camera)

## **BLACKBOARD IS THE COURSE MANAGEMENT SYSTEM**

To access Blackboard, go to <https://mybb.gvsu.edu/> and enter your log in and password.

This course utilizes Blackboard, GVSU's online course management system. Take a look at the GVSU Online Learning pages to find numerous materials about using Blackboard and online learning <http://www.gvsu.edu/online/>.

Use of Blackboard is integral to this course and students must log on a few times each week in order to complete course requirements, receive important announcements and updates, and communicate with instructors and other students about course content.

Check the current [technical requirements](#) to use Blackboard and [preferred browser information](#).

### Technical difficulties with Blackboard

If you experience technical problems with Blackboard, contact the help desk by email [helpdesk@gvsu.edu](mailto:helpdesk@gvsu.edu) or phone 616-331-3513. The help website is <http://www.gvsu.edu/it/learn/>

Many of GVSU's library resources can be accessed online [Distance and Off-Campus Learning Services](#) with many journal articles available on demand. You must have an active GVSU student account to take advantage of the library's resources and services. Some courses may have reading materials in course reserve. To access course reserve, [click here](#).

### **Writing Center**

The Writing Center is available to assist with all kinds of writing tasks and they will give feedback on writing assignments. It is not just for students who struggle with writing. They can help any student improve writing skills. Writing Center [online services](#).

### **Accommodations for Students with Disabilities**

If you need specific accommodations and you have a documented disability, you will need to contact the Disability Support Resources Office at 616-331-2490 to coordinate accommodations. If you plan to request accommodations in this course, please let me know right away so I can assist you.

### **BCBA Certification Information**

This course is one of six courses in the 18-credit Applied Behavior Analysis Graduate Certificate Program at GVSU. Successful completion of the course sequence results in the GVSU Graduate Certificate in Applied Behavior Analysis. The ABA Graduate Certificate is a Verified Course Sequence (VCS) by the Behavior Analyst Certification Board (BACB). The BACB has approved the GVSU course sequence as meeting the 270-hour coursework requirements for eligibility to pursue certification as a BCBA. Additionally, the BACB requires that you show proof of a master's degree in psychology, education, or behavior analysis and evidence that you have accrued the required number of supervised experience hours before you can register to take the BCBA exam. You are responsible for ensuring that you meet all of the current BACB standards. For more information about the Behavior Analyst Certification Board, go to [www.bacb.com](http://www.bacb.com) and click on "Obtain a Credential."

## **COURSE ORGANIZATION and ASSIGNMENTS**

### **Readings**

You will have book chapters or articles associated with each unit module. It is critical to stay up on the readings. This is where you will learn much of the ABA terminology, which is cumulative over the course of the ABA sequence and is necessary for course exams and the BACB exam. In addition, you will be asked to find several research studies independently.

**Learning Units** (c. 2-week modules)

The learning units will be a foundational part of the course and this is where you will find directions for each two week segment of the course including reading assignments, course content presentations, course materials, lesson activities, and assignments. Units will be posted on the starting date listed on the syllabus and will be open throughout the course.

**Discussion Board Activities**

An open discussion forum will be available to allow you to communicate with the instructor and other students. It will be important to stay connected with others to have conversations about the content and ask questions.

In addition, you will have a discussion board activity for each unit. These activities may include responding to questions on a discussion board, reviewing and commenting on research articles, and/or small group discussions using Zoom. More information on each activity will be provided with each unit.

**Content Quizzes**

At the end of each unit, you will complete a content quiz. There will be 6 quizzes, each worth 10 points. Quizzes will be completed in Blackboard. Each quiz will consist of a variety of forced-choice questions, and short-answer questions. The purpose of the quiz is to help you assess your knowledge of the content from the unit. Typically, you will have 30-60 minutes to take each quiz. Although each quiz is technically “open book,” you are not given enough time to look up each answer, so be sure that you spend time preparing for the quiz prior to taking it. The quiz must be completed by the last Sunday (at midnight) of the learning unit. Be sure to read the instructions for each quiz, as the process may vary for specific quizzes.

**Assignments**

You will have 6 assignments to complete (1 for each unit). Most assignments are worth 20 points. More details about the individual assignments will be provided on Blackboard. All assignments must be prepared in a professional manner (typed, free from spelling/grammatical errors). Late assignments will only be accepted under extenuating circumstances. See late assignment policy.

**Exams**

There are two exams (midterm and final) in this class. Each exam is worth 40 points. The exams must be proctored. We will hold an exam time on GVSU’s campus at a specified time and location. You may also have the exam proctored by another individual who fits the criteria (see directions on Blackboard). Exams will consist of a variety of questions. Make-up exams are permitted only under extenuating circumstances. Please plan your schedule accordingly.

Assignment	Points	Total Points for Semester
Discussion Board Activities (6)	5-10	40
Quizzes (6)	10	60
Assignments (6)	10-20	110
Exams (2)	40	80
<b>TOTAL POINTS</b>		<b>290</b>

Letter Grade	Percentage Range
A	94-100%
A-	90-93%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	70-76%
D	61-69%
F	0-60%

## **ADDITIONAL COURSE INFORMATION**

### **Contacting Instructors**

This course is co-taught by two instructors (Amy Campbell and Jamie Owen-Deschryver). Both course instructors are available to answer questions throughout the semester, and feel free to email both with any concerns. Each learning unit has been assigned a primary instructor (as listed on the course schedule). If you have a question specific to that unit (content or assignment), we request that you contact the primary instructor. This will help us ensure that

you receive clear answers, and will hopefully eliminate any confusion in regards to expectations.

### **Late assignment policy**

Late assignments are only accepted under extenuating circumstances. Be sure to allow ample time to complete the assignments (these are NOT assignments that can be completed the night before the due date!). You must contact the course instructor for the unit at least 24-hrs prior to the due date to notify them that the assignment will be late, and receive approval. All late assignments will receive a penalty of **2pts** per 24-hour period. You may only submit an assignment up to 5 days late (receive a 10-pt deduction). Assignments more than 5 days late will receive no credit. We encourage you to keep open lines of communication with the instructors – please contact us ASAP if you anticipate having a difficult time meeting the deadlines.

### **Learning Support and Assistance**

Remember, the faculty members are available to support your learning in this class. Much of the content will be challenging, and we encourage you to utilize us for support. Faculty are willing to hold face-to-face study sessions, on-line office hours, and individual meetings to support your learning in this class. However, you must COMMUNICATE your needs with us. Please do not wait until you do poorly on a test/assignment to get support for the content.

### **GVSU COURSE POLICIES**

This course is subject to the GVSU policies listed at <http://www.gvsu.edu/coursepolicies/>. Please familiarize yourself with these policies.

### **ACADEMIC INTEGRITY**

[GVSU Student Code regarding Integrity of Scholarship and Grades:](#)

#### **Section 223.00: Integrity of Scholarships and Grades**

Truth and Honesty. The principles of truth and honesty are recognized as fundamental to a community of teachers and scholars. The University expects that both faculty and students will honor these principles, and in so doing protect the validity of University grades. This means that all academic work will be done by the student to whom it is assigned without unauthorized aid of any kind. Instructors, for their part, will exercise care in the planning and supervision of academic work, so that honest effort will be positively encouraged.

#### **Section 223.01: Plagiarism**

Any ideas or material taken from another source for either written or oral presentation must be fully acknowledged. Offering the work of someone else as one's own is plagiarism. The

language or ideas taken from another may range from isolated formulas, sentences, or paragraphs to entire articles copied from books, periodicals, speeches or the writings of other students. The offering of materials assembled or collected by others in the form of projects or collections without acknowledgment also is considered plagiarism. Any student who fails to give credit in written or oral work for the ideas or materials that have been taken from another is guilty of plagiarism.

"This course is subject to GVSU's general requirements for courses. A full list with pointers to resources may be found at [www.gvsu.edu/coursepolicies](http://www.gvsu.edu/coursepolicies)."

<b>Assignment Due Dates</b>		
		<b>Due Date</b>
Assignments	Assignment 1: Research Integrity Training CITI Training (note, this will take 6-8 hrs to complete, get started early in the semester)	Complete by July 21
	Assignment 2: Measurement	June 2
	Assignment 3: Research Proposal	June 16
	Assignment 4: Research Proposal	June 30
	Assignment 5: Visual Analysis	July 21
	Assignment 6: Program Evaluation	August 4
Discussion Board	Unit 1: Traditional	Initial response by May 12 Additional responses by May 19
	Unit 2: Traditional	Initial response by May 26 Additional responses by June 2
	Unit 3: Online group discussion	Sign up for discussion group June 10-14
	Unit 4: Online group discussion	Sign up for discussion group June 24-28
	Unit 5: Traditional	Initial response by July 14 Additional responses by July 21
	Unit 6: Traditional	Initial response by July 28 Additional responses by August 4
Quizzes	Quiz 1	May 19
	Quiz 2	June 2
	Quiz 3	June 16
	Quiz 4	June 30
	Quiz 5	July 21
	Quiz 6	August 4
Exams	Midterm Exam	On campus: Thursday, June 13 at 10:00 am
	Final Exam	On campus: Tuesday, August 6 at 4:00 pm

<b>Course Schedule</b>			
<b>Unit and Dates</b>	<b>Topics</b>	<b>Readings</b>	<b>Assignments</b>
Unit 1: Foundations of Research 5/6-5/19 Instructor: Jamie	<ul style="list-style-type: none"> <li>• Research integrity training</li> <li>• Science &amp; pseudoscience</li> <li>• Evidence-based practice in education</li> </ul>	Lilienfeld et al. (2012) Hodgetts et al. (2011) Slavin (2003) IRIS Modules, Evidence-based practices Part1 Baily & Burch Part 1 (1-15) Baily & Burch Part 2, Step 1-2 (17-50)	<ul style="list-style-type: none"> <li>• Assignment 1: Research Compliance/ CITI training (due by July 21st at the end of Unit 5)</li> <li>• Discussion Board Activity 1</li> <li>• Quiz 1</li> </ul>
Unit 2: Measurement 5/20 – 6/2 Instructor: Amy	<ul style="list-style-type: none"> <li>• Measuring IV &amp; DV</li> <li>• Interobserver Agreement</li> <li>• Foundations of Single Subject</li> </ul>	Bailey & Burch Part 2, Step 3-6 (51-119) Horner et al. (2005) Wolf (1978)  <b>Review (introduced in previous class):</b> LeBlanc et al. (2016)	<ul style="list-style-type: none"> <li>• Assignment 2</li> <li>• Discussion Board Activity 2</li> <li>• Quiz 2</li> </ul>
Unit 3: Single Subject Design I 6/3 – 6/16 Instructor: Amy	<ul style="list-style-type: none"> <li>• Reversal design</li> <li>• Alternating treatments design</li> <li>• Graphing data</li> </ul>	Bailey & Burch Part 2, Step (121-141, 155-158) Mayer Ch. 9 (intro and reversal designs) Mayer Ch. 25 (alternating tx/multi-element) Vanselow & Bouret (2012)  <b>Optional (but helpful for graphing):</b> Deochand et al. (2015) Dixon et al. (2009) Barton & Reichow (2012)	<ul style="list-style-type: none"> <li>• Assignment 3</li> <li>• Discussion Board Activity 3</li> <li>• Quiz 3</li> </ul>
<b>EXAM 1: Thursday, 6/13</b>			<b>On-campus midterm exam: Thursday, 6/13 at 10:00am (location TBD).</b>
Unit 4: Single Subject Design II 6/17 – 6/30 Instructor: Jamie	<ul style="list-style-type: none"> <li>• Multiple baseline</li> <li>• Changing criterion</li> </ul>	Mayer Ch. 9 (multiple baseline) Mayer Ch. 25 (changing criterion, multiple probe) Bailey & Burch Part 2 Step 7 (141-154, 158-162)	<ul style="list-style-type: none"> <li>• Assignment 4</li> <li>• Discussion Board Activity 4</li> <li>• Quiz 4</li> </ul>
Semester Break July 1- 6			
Unit 5: Evaluating Single Subject Designs 7/8 – 7/21 Instructor: Amy	<ul style="list-style-type: none"> <li>• Visual analysis</li> <li>• Statistical methods</li> </ul>	Bailey & Burch Step 8-10 (163-189) Bailey & Burch Par 3 (191-195) Riley-Tillman & Burns (2009)	<ul style="list-style-type: none"> <li>• Assignment 5</li> <li>• Discussion Board Activity 5</li> <li>• Quiz 5</li> </ul>
Unit 6: Outcome Evaluation in School Settings 7/22 – 8/4 Instructor: Jamie	<ul style="list-style-type: none"> <li>• Case studies</li> <li>• Program evaluation</li> </ul>	Morrison & Harms (2018), Ch. 5 and selected pages Filter et al. (2007) Muscott et al. (2008)	<ul style="list-style-type: none"> <li>• Assignment 6</li> <li>• Discussion Board Activity 6</li> <li>• Quiz 6</li> </ul>
<b>EXAM 2: Tuesday, 8/6</b>			<b>On-Campus Final exam: Tuesday 8/6 at 4:00 pm (location TBD)</b>

## Readings

- Bailey, J.S. & Burch, M.R. (2018). *Research methods in Applied Behavior Analysis* (2<sup>nd</sup> ed.). Taylor & Francis, New York. Selected Chapters as noted in syllabus.
- Barton, E.E., & Reichow, B. (2012). Guidelines for graphing data with Microsoft Office 2007, Office 2010, and Office for Mac 2008 and 2011. *Journal of Early Intervention, 34*, 129-150.
- Deochand, N., Costello, M.S., & Fuqua, R.W. (2015). Phase-change lines, scale breaks, and trend lines using Excel 2013. *Journal of Applied Behavior Analysis, 48*, 478-493.
- Dixon, M.R., Jackson, J.W., Small, S.L., Horner-King, M.J., Lik, N., Garcia, Y. & Rosales, R. (2009). Creating single-subject design graphs in Microsoft Excel 2007. *Journal of Applied Behavior Analysis, 42*, 277-293.
- Filter, K., McKenna, M., Benedict, E., & Horner, R. (2007). Check-in/check-out: A post-hoc evaluation of an efficient, secondary level targeted intervention for reducing problem behaviors in schools. *Education and Treatment of Children, 30*, 69-84.
- Hodgetts, S., Magill-Evans, J., Misiaszek, J.E. (2011). Weighted vests, stereotyped behaviors and arousal in children with autism. *Journal of Autism and Developmental Disorders, 41*, 805-814.
- Horner, R.H., Carr, E.G., Halle, J., McGee, G., Odom, S., Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children, 71*, 165-179.
- LeBlanc, L.A. Raetz, P.B., Sellers, T.P., & Carr, J.E. (2016). A proposed model for selecting measurement procedures for the assessment and treatment of problem behavior. *Behavior Analysis in Practice, 9*, 77-83.
- Lilienfeld, S.O., Ammirati, R. & David, M. (2012). Distinguishing science from pseudoscience in school psychology: Science and scientific thinking as safeguards against human error. *Journal of School Psychology, 50*, 7-36.
- Mayer, G.R., Sulzer-Azaroff, B., & Wallace, M. (2013). *Behavior analysis for lasting change* (3<sup>rd</sup> ed.). Sloan Publishing: New York.
- Morrison, J.Q. & Harms, A.L. (2018). *Advancing Evidence-Based Practice through program evaluation: A practical guide for school-based professionals*. New York: Oxford University Press.
- Muscott, H.S., Mann, E.L., & LeBrun, M.R. (2008). Positive Behavioral Interventions and Supports in New Hampshire: Effects of large-scale implementation of schoolwide PBS on student discipline and academic achievement. *Journal of Positive Behavior Interventions, 10*, 190-205.

Riley-Tillman, T.C. & Burns, M.K. (2009). *Evaluating Educational interventions: Single-case design for measuring response to intervention*. New York: Guilford Press.

Slavin, R.E. (2003). A reader's guide to scientifically based research: Using data to improve student achievement. *Educational Leadership*, 60, 12-16.

Vanselow, N.R., & Bourret, J.C. (2012). Online interactive tutorials for creating graphs with Excel 2007 or 2010. *Behavior Analysis in Practice*, 5, 40-46.

Wolf (1978). Social validity: The case for subjective measurement or How Applied Behavior Analysis is finding its heart. *Journal of Applied Behavior Analysis*, 11, 203-214.