

# EDF 6437 MEASUREMENT AND SINGLE CASE DESIGN

3 Semester Graduate Course Credit Hours

BACB 6th Edition Test Content / QABA Standards / IBAO Objectives

45 hours in Measurement, Data Display, Interpretation, and Experimental Design (BACB)

20 Hours Data Collection and 25 Hours Assessment (Experimental Design) (QABA)

25 Hours Single Case Design / 20 Hours Recording and Measuring Behavior

Syllabus Effective Date: August 1, 2024

## Prerequisites

Students must be eligible to enroll in Master's level courses and have completed EDF 6225, 6226, & 6223 with a B or higher. A grade of B or higher in this course may be a prerequisite for additional courses in the program.

## Course Description

This course provides students with concepts in measurement and design of single case methodology to establish reliable intervention procedures, positive behavior change, systems support, while adhering to management, supervision, and ethical and professional issues relevant to the practice of behavioral intervention and research design. The content is based on the Behavior Analyst Certification Board (BACB) 6th edition Test Content, the Qualified Applied Behavior Analysis Credentialing Board (QABA) Competency Standards, the International Behavior Analysis Organization (IBAO) (see below under Topics Covered), as well as the Association for Behavior Analysts International (ABAI) commitment to developing competence in measurement of behavior, data collection analysis and graphic representation, experimental design with particular emphasis on single subject design, and applicable statistical procedures.

## Course Format/Type

This course is 100% Online. Students will be required to participate in weekly online videoconference-style classes and access supporting videos and documents from Canvas, including the syllabus, assignments, and assessments. Weekly attendance in either live or recorded sessions is mandatory and proctored using the online educational platform provided by the University of West Florida.

## Course Learning Outcomes

1. Define each vocabulary term related to single subject experimental designs as evidenced by celeration of x1.3 learning under (30) second timings of SAFMEDS.
2. Provide examples and non-examples of each vocabulary term related to single subject experimental designs as evidenced by celeration of x1.3 learning under (30) second timings of SAFMEDS.
3. Interpret measurement and data display procedures as evidenced by scoring at least 82% on weekly assignments.
4. Apply concepts of behavior change to experimental design via vignettes as evidenced by scoring 100% on fluency quizzes.
5. Students will be able to combine concepts under measurement and data display and interpret them using appropriate experimental design as evidenced by 100% fluency on fluency quizzes.
6. Maintain concepts under Topics Covered via cumulative assessments throughout the course sequence to 100% acquisition scores on exams.

## Topics Covered

### BACB Measurement, Data Display, and Interpretation

C.1.	Create operational definitions of behavior.
C.2.	Distinguish among direct, indirect, and product measures of behavior.
C.3.	Measure occurrence.
C.4.	Measure temporal dimensions of behavior (e.g., duration, latency, interresponse time).
C.5.	Distinguish between continuous and discontinuous measurement procedures.
C.6.	Design and apply discontinuous measurement procedures(e.g., interval recording, time sampling).
C.7.	Measure efficiency (e.g., trials to criterion, cost-benefit analysis, training duration).
C.8.	Evaluate the validity and reliability of measurement procedures.
C.9.	Select a measurement procedure to obtain representative data that accounts for the critical dimension of the behavior and environmental constraints.
C.10.	Graph data to communicate relevant quantitative relations(e.g., equal-interval graphs, bar graphs, cumulative records).
C.11.	Interpret graphed data.
C.12.	Select a measurement procedure to obtain representative procedural integrity data that accounts for relevant dimensions (e.g., accuracy, dosage) and environmental constraints.

### BACB Experimental Design

D.1.	Distinguish between dependent and independent variables.
D.2.	Distinguish between internal and external validity.
D.3.	Identify threats to internal validity (e.g., history, maturation).
D.4.	Identify the defining features of single-case experimental designs (e.g., individuals serve as their own controls, repeated measures, prediction, verification, replication).
D.5.	Identify the relative strengths of single-case experimental designs and group designs.
D.6.	Critique and interpret data from single-case experimental designs.
D.7.	Distinguish among reversal, multiple-baseline, multielement, and changing-criterion designs.
D.8.	Identify rationales for conducting comparative, component, and parametric analyses.
D.9.	Apply single-case experimental designs.

### QABA Data Collection and Analysis (F)

1.	Measurable dimensions of behavior
2.	Operational definitions
3.	Graphic displays
4.	Visual analysis
5.	Measurement procedures (e.g., continuous and discontinuous)
6.	Validation of measurement
7.	Interobserver agreement

### QABA Assessment (G)

1.	Assessments (e.g., FBA, FA, preference, reinforcer, indirect, direct/descriptive, conditional probability, environmental analysis)
2.	Experimental designs

## IBAO Single Case Designs

Use Reversal/Withdrawal designs
Use Multi-element/Alternating Treatments designs
Use Multiple Baseline designs
Interpret and make accurate determinations when comparing Phase Change Designs
Explain the Dependent Variable and how it is used
Explain the Independent Variable and how it is used
Explain what defines Functional Relationships

## IBAO Recording and Measuring Behavior

Create Behavioral Definitions
Evaluate Permanent Products as a data collection
Demonstrate data collection with Frequency Recording
Demonstrate data collection with Rate
Demonstrate data collection with Partial and Whole Interval Recording
Demonstrate data collection with Time-based Measurement
Explain the importance of Accuracy Based on Observing Behavioral Definitions
Demonstrate data collection with Percentage Accuracy
Explain the importance and considerations in choosing Appropriate Measurement Systems
Demonstrate data collection with Trial by Trial Data
Demonstrate data collection with Cold Probe Data

## Required Texts and Materials

Richards, S.B. (2019). *Single Subject Research: Applications in Educational Settings*. (3<sup>rd</sup> Ed.).

Knowledge Builder. Measurement and decision-making software, displaying data on the Standard Celeration Chart (SCC) powered by CentralReach® through their learning system, CRInstitute.

Cooper, J.O., Heron, T.E., & Heward, W.L. (2019). *Applied Behavior Analysis*. (3rd Ed.). Prentice Hall.

## Grading System

Points will be allocated using the following weighted system

1. Participation in weekly assignments (10 %)
2. Midterm Exam – average of quiz scores (20 % of final grade)
3. Final Assignment (35 %)
4. Final Exam Score (35 %)

## Exams

All exams are cumulative and are available on the UWF eLearning system. Computers must be able to take the exam using a lock-down browser and monitor.

## Assignments

Content hours earned towards certification requirements have been carefully calculated. If a student neither attends the live virtual class nor views the recorded lectures for each week, a 10% response cost to the final grade will be administered for each missed session or recording. If 3 or more class sessions are missed, this will result in an automatic (F) failing grade assigned for the course. Students must also complete weekly assignments to receive a passing grade in the course. Assignments submitted more than one week from the due date will not receive points, but assignments must still be placed in eLearning by the end of the course in order to earn a passing grade. If any assignments are not submitted to eLearning by the end of course, a 10% response cost to the final grade per missing assignment will be administered. If 3 or more assignments are missed, this will result in an automatic (F) failing grade assigned for the course.

## Virtual Class

Our students have choices in attendance and participation: Students are encouraged to attend all live, real-time, class sessions. If students cannot attend live, they must watch the recording each week, in addition to any other pre-recorded lectures.

## Grading scale

A	92-100
A-	90-91
B+	88-89
B	82-87
B-	80-81 An 82% or higher is required for courses with prerequisites in the program
C+	78-79
C	72-77
C-	70-71
D	60-69
F	59 or below

Incomplete grades (I) will not be given except under very extreme circumstances. Please see the UWF catalog for rules about Incomplete grades

## Course Modality

University of West Florida operations may be disrupted from time to time by weather, pandemics, and other events outside of our control. It is important for faculty and students alike to plan for contingencies that may affect individual course sections. With this in mind, faculty may opt to hold some class meetings in a modality other than that originally planned in order to make certain that the class continues in the best manner possible given the immediate circumstances. It is important to be flexible and understand that we are operating in a dynamic environment.

## Recording in Class

Without prior notice, students may record video or audio of a class lecture for a class they are enrolled in for their own personal, educational use. A class lecture is an academic presentation delivered by faculty or guest lecturer as part of a University of West Florida course intended to inform or teach enrolled students about a particular subject. The following actions are prohibited: recording class activities other than class lectures, including but not limited to lab sessions, student presentations (whether individually or part of a group), class discussion (except when incidental to and incorporated within a class lecture), clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the faculty member. Recordings may not be used as a substitute for class participation and attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of UWF-REG 3.010 Student Code of Conduct and may be a violation of the law. More details can be found in the [UWF Student Handbook](#).

## Academic Conduct

The [Student Code of Academic Conduct](#) defines various forms of academic misconduct, including cheating and plagiarism, and describes the process for addressing these types of allegations. All students are expected to read the Student Code of Academic Conduct and comply with the expectations. More information and links to the University regulation governing academic conduct can be found on the [Office of Student Rights and Responsibilities website](#).

## TurnItIn

UWF maintains a university license agreement for an online text-matching service called Turnitin. Instructors may use the Turnitin service to evaluate the originality of student papers at their discretion. Instructors can employ other services and techniques to evaluate your work for evidence of appropriate authorship practices as needed.

## Sexual Discrimination or Harassment Reporting

University of West Florida faculty members are committed to supporting students and upholding the University's non-discrimination and harassment policies. Under Title IX, discrimination and harassment based upon sex or gender (including sexual violence and sexual misconduct) are prohibited. If you experience an incident of sex/gender-based discrimination or harassment, you do not have to go through the experience alone. Know that while you may talk to a faculty member, as a "Responsible Employee" of the University, the faculty are required to notify the University's Title IX Coordinator so that support services can be provided to you. If you would like to speak with someone confidentially, you may schedule an appointment with the UWF's Counseling and Psychological Services at 850.474.2420. This service is free for students. Faculty can also help direct you to, or you may independently access the [University's Title IX website](#).

## Civil Discourse

At the University of West Florida, learning involves a variety of ideas, theories, and evidence. Presentation of these ideas does not represent an endorsement of any one idea or perspective. It is vital to the UWF academic mission that we foster an environment that allows for the open exchange of ideas and perspectives to advance the learning objectives for each course. Civil discourse within and outside the classroom is a vital component of the UWF academic environment and is expected of everyone who belongs to the UWF community. Students and faculty may engage with complex ideas in class, and students will often be asked to demonstrate an understanding of those ideas. Understanding an idea, concept, or theory does not require endorsing or agreeing with it but rather hearing and considering its strengths and weaknesses. More information about civil discourse can be found on the [Office of Campus Culture and Access webpage](#).

## Health and Safety Protocols

The University of West Florida is dedicated to maintaining the best learning environment possible for our entire community of students, faculty and staff. We are the University of West Florida. Each of us, and all of us, by the act of stepping onto this campus and into a classroom, accept the responsibility as UWF Argonauts to help make this a safe place to learn. The University will continue to rely on guidance from the Florida Department of Health and the Centers for Disease Control and Prevention to pass on any changes in protocols for health and safety should the need arise. Students are encouraged to consult with their instructors regarding absences and missed work.

## Student Wellbeing

Throughout your time at UWF, you may experience a range of issues that may negatively impact your success. These may include physical illness, housing or food insecurity, relationship issues, depression, anxiety, stress, alcohol and drugs, sexual violence, or grief. These challenges or stressful events may impact your ability to participate in day.to.day activities or be successful in your academics. If you find yourself struggling in any of these areas, please reach out to one of the following resources that can help you:

- Dean of Students Office (850.474.2384 or [deanofstudents@uwf.edu](mailto:deanofstudents@uwf.edu))
- Counseling & Psychological Services (850.474.2420 - available 24/7)
- Student Health Services (850.474.2172 - [healthservices@uwf.edu](mailto:healthservices@uwf.edu))

If you are concerned about another UWF student, please submit a [care referral](#).

## Student Accessibility Resources

The University of West Florida supports an inclusive learning environment for all students. If aspects of this course's instruction or design hinder your full participation, such as time-limited exams, inaccessible web content, or the use of non-captioned videos and podcasts, reasonable accommodations can be arranged. Before receiving accommodations, you must register with Student Accessibility Resources. Appropriate academic accommodations will be determined on an individual basis with careful consideration of course design, course learning objectives, individual documentation of disability, and the academic barriers experienced by the student. Accommodations may vary from one course to the next course and from one semester to the next semester. For information regarding the registration process, visit [the SAR website](#), e.mail [sar@uwf.edu](mailto:sar@uwf.edu), or call 850.474.2387.

## Military & Veterans Resource Center

The [UWF Military & Veterans Resource Center \(MVRC\)](#) serves as a leading campus advocate for all military-affiliated students (Active Duty, Veterans, Reservists, Guardsman, and Spouses/Dependents of those above), working to ensure the needs of these individuals are met through coordinating with multiple university offices and services. The MVRC assists with the following: GI Bill ® education benefits, Active Duty Tuition Assistance, EDD, out-of-state fee waiver, tutoring, mentoring, disability accommodation assistance, coordinating academic advising, and referral to state /federal resources and services. The MVRC is located in Building 38, Room 147. For more information on MVRC services, call 850.474.2550 or email [mvrc@uwf.edu](mailto:mvrc@uwf.edu).

## Ask-a-Librarian

UWF Library staff are available for help through our [Ask-a-Librarian Live Chat](#), monitored from 8:00 am to 11:00 pm Monday through Thursday, 8:00 am to 4:00 pm on Friday, 9:00 am to 4:00 pm on Saturday, and 9:00 am to 11:00 pm on Sunday. You can also email a librarian using the left-hand navigation in Canvas under Help or Library Tools or text a librarian at 850.483.0225.

## Emergency Information

In the case of severe weather or another emergency, the campus might be closed and classes canceled. UWF uses a variety of communication methods to alert the campus community about emergency situations and safety threats. [Learn more about Emergency Communications from the UWF Police](#).

Official closures and delays are announced on the UWF website, Mobile Alert, and broadcast on WUWF-FM (88.1MHz).

Mobile Alert is a broadcasting messaging system utilized by the university in emergency situations. To find more information regarding Mobile Alert, visit the [Enroll in Mobile Alert page](#) or locate the application in MyUWF by searching Mobile Alert.

WUWF-FM (88.1MHz) is the official information source for the University. Any pertinent information regarding closings, cancellations, and the re-opening of campus will be broadcast.

If hurricane preparation procedures are initiated, the UWF Home Web Page and MyUWF will provide current information regarding hurricane preparation procedures, the status of classes, and the closing of the University. All students are encouraged to review the [Emergency Procedures Guide from UWF Police](#) as a quick reference for effective and timely action in the event of an emergency.

## Writing Lab

[The Writing Lab](#) can help with the projects in this course. Graduate and undergraduate Writing Lab assistants are available to review the mechanics of writing with you and help you upgrade the quality of your papers before you submit assignments.

Paper reading services are offered online and face-to-face by appointment (through Navigate or 850.474.2229) or as walk-ins at the Main Lab (51/157). These services include face-to-face and online Interactive paper reading sessions and paper reading via the OWL/Online Writing Lab in Canvas.

Paper reading services, one.on.one and interactive group tutoring, Editing Workshops, the Grammar Hotline (850.474.2129), and Real-Time Writing Assistance are available during the Writing Lab's regular hours of operation from 10 to 5 daily and occasional weekends.

Visit our webpage at [www.uwf.edu/writelab](http://www.uwf.edu/writelab), or email us at [writelab@uwf.edu](mailto:writelab@uwf.edu)

## Minimum Technical Skills Needed

UWF prepares students for current and future business and life applications using basic technology. Each UWF student is expected to do the following:

- Activate a student ArgoNet account
- Access the MyUWF portal a minimum of 2-3 times a week
- Access UWF email account (Gmail) 2-3 times a week
- Have basic word-processing knowledge

Additional technical skills and technology requirements may vary by college, department, and course. Student use of UWF information technology resources is governed by the [Computing Resources Usage Agreement](#) and the [Student Communications Policy](#).

Visit the [Minimum Technical Skills and Special Technology Utilized by Students](#) to learn about additional technology requirements for fully online or hybrid courses, general web browser requirements, supported operating systems, additional software you may need, and accessibility and privacy statements for approved UWF technology tools.

## Technical Support

ITS offers support to online students via phone (850.474.2075), [online request form](#), and through email ([helpdesk@uwf.edu](mailto:helpdesk@uwf.edu)) for non-Canvas (eLearning) questions or problems. Visit the [ITS Help Desk website](#) to learn more about their resources and services.

## Helpful support links

- [New to UWF?](#)
- [Computer Specifications for eLearning \(Canvas\)](#)
- [MyUWF & ArgoNet](#)
- [Computer Security](#)
- [Files Storage](#)
- [Google Workspace](#)
- [UWF's ArgoAir Wireless Network](#)
- [ArgoApps](#)
- [Student Guide](#) (helpful links to various technology support topics organized by tool)



Instructors may also use third party learning tools from other vendors, like Pearson. Your instructor should be able to provide information about customer support for those tools separately.

### eLearning (Canvas)

UWF's online courses are made available through eLearning, which is hosted by Canvas, one of the leaders in online learning. eLearning is widely used by UWF instructors for fully online courses and to supplement traditional courses with online content. Visit the [eLearning Help for Students](#) page to get started and find support for Canvas. **Canvas Support is available 24/7 at the Canvas Support Hotline for Students: 1.844.866.3349.**

### Zoom

Zoom is a cloud-based software that allows your instructor to moderate an online meeting with students. Learn more about [using Zoom as a student](#).

### Respondus Lockdown Browser and Monitor

Respondus LockDown Browser is a client-based application that "locks down" a computer or device during an online exam delivered on a third-party assessment platform, such as a Learning Management System (LMS). [Privacy information for Respondus LockDown Browser](#).

Respondus Monitor is a companion product for LockDown Browser that enables students to record themselves with a webcam and microphone during an online exam.

The webcam can be built into your computer or connected to it with a USB cable. Watch this [short video](#) for a basic understanding of LockDown Browser and the webcam feature.

Recordings and other data from the exam session are processed automatically; summary information is provided to the instructor, such as if the student left the video frame during the exam session. [Privacy information for Respondus Monitor](#).

Follow this link for more [instructions for downloading and installing LockDown Browser](#).