

# HSC 4720 METHODOLOGY IN BEHAVIOR ANALYSIS IN HEALTH SCIENCE

3 Semester Undergraduate Course Credit Hours / 45 Content Hours

BACB 5th Edition Task BCaBA Task List

QAB QASP-S Standards

Syllabus Effective Date: August 1, 2021

## Prerequisites

Students must be eligible to enroll in Bachelor level courses have completed HSC 3991/3102 and 3992/3114 with a grade of 82% (B) or higher.

## Course Description.

This course further develops knowledge of measurement, experimental design, and ethics. Students learn the knowledge and skills to precisely observe, measure, and design basic assessments and evaluations in multiple applications within the health context from leadership and management to individual clinical practice. The emphasis of this course is on the ethical application of behavior analysis in context. This course is the third in a series designed to provide students with the necessary knowledge to be eligible for a career as a Board Certified assistant Behavior Analyst (BCaBA) or a Qualified Autism Service Practitioner-Supervisor Building on the basic concepts of behavior analysis. The content is based on the Behavior Analyst Certification Board (BACB) Task List and consists of (10) hours of Philosophical Underpinnings, (10) hours of measurement, data display, and interpretation/experimental design, (5) hours of BACB Ethics Code, (10) hours behavior change procedures; selecting and implementing interventions and, (10) hours of personnel supervision and management. The content is also based on the QABA QASP-S Standard and consists of (5) hours QABA Code of ethics, (10) hours core principles, (9) hours of data collection and analysis, and (9) hours of antecedent interventions, skill acquisition programming, and behavior reduction interventions, (10) hours training and supervision, and (2) hours Autism Spectrum Disorder Basics. This course is offered independently of the BACB and QABA.

## Course Format/Type

This course is 100% Online. Students will be required to participate in weekly online videoconference style classes and applied assignments. In addition, students are required to access supporting documents from the Internet 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

Students will be able to:

1. Define and provide examples and non-examples of each vocabulary term related to measurement, experimental design, principles, and behavior change procedures.
2. Select appropriate terminology related to measurement.
3. Compare and contrast (when appropriate) measurement techniques, experimental designs, and behavior change considerations.
4. Distinguish (when appropriate) between relevant concepts in measurement, concepts and principles, and behavior change procedures.
5. Apply measurement, experimental design principles, and behavior change considerations in conjunction with ethical procedures while supervising others.
6. Apply required readings by interpreting and discussing concepts related to intervention, behavior change procedures, measurement, and ethical considerations and while supervising others specified under topics covered, relating to real-life scenarios and examples.
7. Organize concepts under all topics covered via cumulative assessments throughout the course sequence.

## Topics Covered

### BCaBA Topics Covered

#### A. Philosophical Underpinnings

A-1	Identify the goals of behavior analysis as a science (i.e., description, prediction, control).
A-2	Explain the philosophical assumptions underlying the science of behavior analysis (e.g., selectionism, determinism, empiricism, parsimony, pragmatism).
A-3	Describe and explain behavior from the perspective of radical behaviorism.
A-4	Distinguish among behaviorism, the experimental analysis of behavior, applied behavior analysis, and professional practice guided by the science of behavior analysis.
A-5	Describe and define the dimensions of applied behavior analysis (Baer, Wolf, & Risley, 1968).

#### B. Concepts and Principles

B-1	Define and provide examples of behavior, response, and response class.
B-2	Define and provide examples of stimulus and stimulus class.
B-3	Define and provide examples of respondent and operant conditioning.
B-4	Define and provide examples of positive and negative reinforcement contingencies.
B-5	Define and provide examples of schedules of reinforcement.
B-6	Define and provide examples of positive and negative punishment contingencies.
B-7	Define and provide examples of automatic and socially mediated contingencies.
B-8	Define and provide examples of unconditioned, conditioned, and generalized reinforcers and punishers.
B-9	Define and provide examples of operant extinction.
B-10	Define and provide examples of stimulus control.
B-11	Define and provide examples of discrimination, generalization, and maintenance.
B-12	Define and provide examples of motivating operations.
B-13	Define and provide examples of rule-governed and contingency-shaped behavior.
B-14	Define and provide examples of the verbal operants.
B-15	Define and provide examples of derived stimulus relations.

#### C. Measurement, Data Display, and Interpretation

C-1	Establish operational definitions of behavior.
C-2	Distinguish among direct, indirect, and product measures of behavior.
C-3	Measure occurrence (e.g., frequency, rate, percentage).
C-4	Measure temporal dimensions of behavior (e.g., duration, latency, interresponse time).
C-5	Measure form and strength of behavior (e.g., topography, magnitude).
C-6	Measure trials to criterion.
C-7	Design and implement sampling procedures (i.e., interval recording, time sampling).
C-8	Evaluate the validity and reliability of measurement procedures.
C-9	Select a measurement system to obtain representative data given the dimensions of behavior and the logistics of observing and recording.
C-10	Graph data to communicate relevant quantitative relations (e.g., equal-interval graphs, bar graphs, cumulative records).
C-11	Interpret graphed data.

#### D. Experimental Design

D-1	Distinguish between dependent and independent variables.
D-2	Distinguish between internal and external validity.
D-3	Identify the defining features of single-subject experimental designs (e.g., individuals serve as their own controls, repeated measures, prediction, verification, replication).
D-4	Describe the advantages of single-subject experimental designs compared to group designs.
D-5	Use single-subject experimental designs (e.g., reversal, multiple baseline, multielement, changing criterion).
D-6	Describe rationales for conducting comparative, component, and parametric analyses.

## E. Ethics

E-1	Responsible conduct of behavior analysts
E-2	Behavior analysts' responsibility to clients
E-3	Assessing behavior
E-4	Behavior analysts and the behavior-change program
E-5	Behavior analysts as supervisors
E-6	Behavior analysts' ethical responsibility to the profession of behavior analysis
E-7	Behavior analysts' ethical responsibility to colleagues
E-8	Public statements
E-9	Behavior analysts and research
E-10	Behavior analysts' ethical responsibility to the BACB

## G. Behavior-Change Procedures

G-1	Use positive and negative reinforcement procedures to strengthen behavior.
G-2	Use interventions based on motivating operations and discriminative stimuli.
G-3	Establish and use conditioned reinforcers.
G-4	Use stimulus and response prompts and fading (e.g., errorless, most-to-least, least-to-most, prompt delay, stimulus fading).
G-5	Use modeling and imitation training.
G-6	Use instructions and rules.
G-7	Use shaping.
G-8	Use chaining.
G-9	Use discrete-trial, free-operant, and naturalistic teaching arrangements.
G-10	Teach simple and conditional discriminations.
G-11	Use Skinner's analysis to teach verbal behavior.
G-12	Use equivalence-based instruction.
G-13	Use the high-probability instructional sequence.
G-14	Use reinforcement procedures to weaken behavior (e.g., DRA, FCT, DRO, DRL, NCR).
G-15	Use extinction.
G-16	Use positive and negative punishment (e.g., time-out, response cost, overcorrection).
G-17	Use token economies.
G-18	Use group contingencies.
G-19	Use contingency contracting.
G-20	Use self-management strategies.
G-21	Use procedures to promote stimulus and response generalization.
G-22	Use procedures to promote maintenance.

## H. Selecting and Implementing Interventions

H-1	State intervention goals in observable and measurable terms.
H-2	Identify potential interventions based on assessment results and the best available scientific evidence.
H-3	Recommend intervention goals and strategies based on such factors as client preferences, supporting environments, risks, constraints, and social validity.
H-4	When a target behavior is to be decreased, select an acceptable alternative behavior to be established or increased.
H-5	Plan for possible unwanted effects when using reinforcement, extinction, and punishment procedures.
H-6	Monitor client progress and treatment integrity.
H-7	Make data-based decisions about the effectiveness of the intervention and the need for treatment revision.
H-8	Make data-based decisions about the need for ongoing services.
H-9	Collaborate with others who support and/or provide services to clients.

## QASP-S Topics Covered

### A. Autism Spectrum Disorder Basics

1.	DSM-IV and DSM-V (or current DSM) related to autism spectrum disorders
2.	CDC risk factors and comorbidities related to autism spectrum disorders
3.	Developmental milestones (e.g., typical and atypical, age appropriate)
4.	Autism diagnostic process

### B. Legal, Ethical, and Professional Considerations

1.	QABA Code of Ethics
2.	HIPAA regulations (e.g., confidentiality including limitations, mandated reporting, reportable documents, duty to warn vs. duty to protect)
3.	Educational laws (e.g., IDEA, LRE, IEP, ADA, Rehabilitation Act, 504 Plan)
4.	Positive behavior supports
5.	Person-centered planning
6.	Methods of collaboration (e.g., treatment adherence, referral methods)

### C. Core Principles of ABA

1.	Four-term contingency
2.	Respondent behavior vs. operant behavior
3.	Stimulus (e.g., stimulus control, discriminative stimulus, stimulus delta, SD-p, generalization, discrimination, response)
4.	Motivating operations including satiation and deprivation
5.	dead man's test
6.	Reinforcement and punishment (e.g., positive and negative)
7.	matching law (e.g., rate, magnitude)
8.	Conditioned vs. unconditioned reinforcers/punishers
9.	Basic schedules of reinforcement (e.g., fixed-interval, fixed-ratio, variable-interval and variable ratio)
10.	Risks to extinction procedures (e.g., extinction burst, spontaneous recovery and resurgence)
11.	Basic verbal operants (e.g., mand, tact, echoic and intraverbal)
12.	Scientific understanding: description, prediction, and control
13.	Six attitudes of science
14.	Seven dimensions of applied behavior analysis

### D. Antecedent Interventions

1.	Antecedent strategies (e.g., priming, choices, behavior momentum, visual supports, Premack Principle, environmental modifications)
2.	Non-contingent reinforcement procedures
3.	Functional communication training
4.	effects of setting events

### E. Skill Acquisition Programming

1.	goal writing criteria (e.g., objective measurable mastery criteria, targets)
2.	social/cultural factors necessary for program success
3.	error correction methods
4.	prompts (e.g., hierarchy, procedures, fading, types, prompt dependency)
5.	ABA instructional and educational methodologies

### F. Behavior Reduction Interventions

1.	components of behavior intervention plans
2.	components of token economies (e.g., backup reinforcers, generalized reinforcers, response- cost, ratio strain)
3.	time-out procedures
4.	differential reinforcement procedures
5.	behavior contrast
6.	functional assessments and functions of behaviors
7.	group contingencies

8.	components of contingency contracts
9.	ethical considerations related to behavior reduction interventions (e.g., extinction, time-out procedures, group contingencies, punishment procedures)

### G. Data Collection and Analysis

1.	types of measurement (e.g., frequency/rate, duration, force/magnitude, response latency, and inter-response time)
2.	types of ABA graphs
3.	data collection methods
4.	continuous vs. discontinuous measurement systems (e.g., partial interval recording, whole interval recording, momentary time sampling)
5.	types of IOA (e.g., total count IOA and trial by trial IOA)
6.	visual analysis (e.g., trend, level, and variability)
7.	characteristics of trustworthy measurements (e.g., reliability, accuracy, and validity)

### H. Training and Supervision

1.	Identify the elements to Behavior Skills Training (BST)
2.	Identify systems for monitor treatment and program integrity.
3.	Identify systems for evaluating staff performance.
4.	Identify effective strategies for providing support for staff and family.
5.	Identify methods to mitigate observer drift and reactivity.
6.	Identify effective feedback that is clear, concise, and timely.
7.	Identify elements of poor supervision.
8.	Identify the need for cultural values awareness.

## Required Texts and Materials

Miltenberger, R.G. (2016). *Behavior modification: Principles and procedures* (6<sup>th</sup> ed.) Boston, MA: Cengage Learning. ISBN-10: 1305109392

## Grading System

Points will be allocated using the following weighted system

1. Participation in weekly assignments (50% of final grade)
2. Exams (50% of final grade)

## 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.

## Assignments

Content hours earned towards BACB requirements and QABA 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 beyond one week from the due date will not receive points, but assignments still must 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 - <i>Grades of 82% or higher are required for courses with prerequisites in the program</i>
B-	80-81
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

## 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 MyUWF student 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\* (also see the [My Account](#) app in MyUWF).

Visit the [Minimum Technical Skills and Special Technology Utilized by Students](#) to learn more 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 [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 Apps](#)
- [Internet Access](#)
- [Software](#)
- [Student Guide](#) (helpful links to various technology support topics organized by tool)

## 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 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](#).

### *Using LockDown Browser and a Webcam for Online Exams*

This course requires the use of LockDown Browser and a webcam for online exams. The webcam can be built into your computer or can be the type that plugs in with a USB cable. Watch this [short video](#) to get a basic understanding of LockDown Browser and the webcam feature.

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

## Student Accessibility Resources

The University of West Florida supports an inclusive learning environment for all students. If there are aspects of the instruction or design of this course that 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. Prior to 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.

## **Expectations for Academic Conduct**

The Student Code of Conduct sets forth the rules, regulations, and expected behavior of students enrolled at the University of West Florida. Violations of any rules, regulations or behavioral expectations may result in a charge of violating the Student Code of Conduct. It is the student's responsibility to read the Student Code of Conduct and comply with these expectations. The Student Code of Academic Conduct defines various forms of academic misconduct including cheating and plagiarism and describes the process for addressing allegations of academic misconduct. More information and links to the University regulations governing both student conduct and academic conduct can be found on the Dean of Students website listed under the Office of Student Rights and Responsibilities

UWF maintains a university license agreement for an online text matching service called Turnitin. At our discretion, we may use the Turnitin service to evaluate the originality of student papers. We also may employ other services and techniques to evaluate your work for evidence of appropriate authorship practices as needed.

## **Unacceptable Use of AI**

The use of generative AI tools is not permitted in this course for the following activities:

- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts or completing any assignments in the course.
- Writing a draft of a writing assignment.
- Writing entire sentences, paragraphs, or papers to complete class assignments.

You are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws or contain misinformation or unethical content). Any assignment that is suspected to have been composed with generative AI tools in unauthorized ways may result in a penalty of zero points on the assignment as well as a resubmission requirement. When in doubt about permitted usage, please ask for clarification. Your use of AI tools must be appropriately documented and cited to stay within university policies on [academic honesty](#).

## **Military and 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<sup>®</sup> 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.

## **Physical Health**

All enrolled students have access to The Student Health Clinic, which is a primary care clinic where students can receive medical care or advice. Contact [Student Health Services](#) at (850) 474-2172 for health concerns.



## Mental Health Support

UWF resources are here to help you thrive, learn, and flourish. Please take advantage of the free resources online or on campus. Contact [Counseling and Psychological Services](#) at (850) 474-2420 for concerns about mental health or substance use. For 24/7 crisis counseling, call (850) 474-2420 and press option 6.

- **Therapy Assistance Online (TAO)** All students are encouraged to use Therapy Assistance Online (TAO) to strengthen their interpersonal and coping skills, learn more about sleep and wellness, and better cope with anxiety, depression, stress management, and more. TAO is an interactive web-based self-help program that is available 24/7 and has video courses on mindfulness, relationships, anxiety, depression, and other mental health concerns. Access TAO anonymously at [uwf.edu/tao](http://uwf.edu/tao).
- **TogetherAll** If you feel like you need somewhere to talk anonymously to others who can support you, peer support is available to all students 24/7 via TogetherAll. TogetherAll is an online community monitored by trained clinicians to keep it safe. Members are anonymous and can share how they are feeling and support each other. It is an asynchronous platform where you can respond to other's posts and share your posts if you like. Learn more and join TogetherAll at [uwf.edu/togetherall](http://uwf.edu/togetherall).
- **ArgoWell** Mental Health is one aspect of holistic health that encompasses all eight wellness dimensions. The eight dimensions do not have to be equally balanced. Instead, you should strive to achieve your own authentic personal harmony. You have unique goals, priorities, and aspirations. You determine how to live your best life. ArgoWell is a UWF campus-wide initiative that brings student wellness to the forefront. Learn how ArgoWell can help you make the healthy choice the easy choice and support you in your wellness journey at [uwf.edu/argowell](http://uwf.edu/argowell).

## Discrimination or Harassment Reporting

The 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, understand that 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, or you may refer to the [University's Title IX website](#).

## Emergency Information and Course Continuity Statement:

In the case of severe weather or another emergency, the campus might be closed and classes canceled. Official closures and delays are announced on the UWF website and broadcast on WUWF-FM.