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# BEHV 3440

## *Data Collection & Analysis*

Class Time: M W 12:00 pm – 1:50 pm  
Room: WH 215  
Instructor:  
J. Stephanie Gonzalez, PhD, BCBA-D  
E-Mail: [jeanne.gonzalez@unt.edu](mailto:jeanne.gonzalez@unt.edu)  
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## Course Description:

In this course, you will learn how to design and implement complete observational systems. You will be able to define behavior, understand the role of the observer's behavior during data collection, and use various methods of direct observation to quantify the occurrence of behavior. You will be able to describe the benefits and limitations of each data collection method and choose an appropriate observational method to record the occurrence of specific behaviors. You will also learn how to read, display, and interpret data in tables and graphs, and learn about the logic of single-subject designs. Students should enroll in this class only after taking BEHV 2300, 2700, or 3150.

1. Write a reliable operational definition of behavior.
2. Record behavior with different recording methods and select the appropriate method.
3. Calculate the reliability of data.
4. Put data into a table and a graph format.
5. Read and describe linear graphs and cumulative records.
6. Design entire observational systems.
9. Enhance skills related to effective professional conduct (self-directed learning, civil and considerate behavior, thoughtful discussion, cooperative project work, polished work products).

## What You Need:

1. The manual for this class is available from FedEx at 2430 S Interstate 35 #176, Denton, TX 76205. Tell them you're looking for the 3440 manual under Dr. Stephanie Gonzalez. All in-class activities and lab notes are in this manual. Manual activities will be submitted online throughout the semester to provide feedback and continuous grading.
2. PARTNERS: Many class activities and projects will require a partner. You may change partners as often as you like. You must use your UNT email address to contact one another. Partners outside of class are not allowed.

## Course Components:

**Assigned Reading:** For each unit, review Canvas for your assigned readings. There will be active reading notes you need to fill out. You can fill this out virtually or by hand. At the start of every class, our lovely TAs will walk around the room and give you a stamp contingent on having completed active reading notes. You must complete active reading to receive credit for the day.

**Lectures:** Our classes will start with a lecture reviewing and expanding on the topics you've read about.

**In Class Participation and Lab Manual:** Students will engage in a variety of activities designed to extend concepts and practice technical skills related to observation and measurement of behavior. Both class attendance and uploaded lesson materials are required to earn credit for each lesson.

Lessons are worth anywhere from 1-3 points. Review games require only attendance and participation. Absences can be made up within 5 business days by appointment – see attendance policy below. *Late uploads receive half points unless excused.* At the end of class, you will receive a stamp. Your stamp must be visible to receive full credit when you upload. Stamps are only available within the first 10 min and last 10 min of class.

**Systems Project:** In groups of 3, students will design three complete observational systems and use them to record data for 3 days. They will write a report including definitions of at least three behaviors, data sheets, observation and reliability procedures, a table of the data, a graph of the data, and a description of the data. Grading depends in part on symmetrical contributions between partners.

**Teach Us Presentation:** Students will give a short presentation to the class that details how they would apply class concepts to three behaviors in their chosen application area.

**Final Assessments:** The comprehensive exam will cover all materials and skills learned in the class. Reviews and practices will be available.

**Extra Credit:** Students may earn extra credit by participating in approved research studies listed on the Behavior Analysis Sona page. Credits are assigned in Sona by the researcher. In this course, each Sona credit is equivalent to .5 raw extra credit points (or .5% of the total course grade), with a maximum of 2.5 credits applied. An alternative assignment will be available for students who do not wish to participate in research.

## Grading Distribution

| Assignment                       | Total Points |
|----------------------------------|--------------|
| Lab Manual/Class Participation   | 25           |
| Systems Project with Lab Partner | 25           |
| Teach Us Presentation            | 30           |
| Final Exam                       | 20           |
| Total Points                     | 100          |

### Grading Scale

**A= 100-90, B=89-80, C=79-70, D=69-60, F= 59 or below**

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## ACCOMMODATIONS

The Department of Behavior Analysis, in cooperation with The Office of Disability Accommodation, complies with the Americans with Disabilities Act. Additionally, **I consider all students to be need an accommodation of some kind** since you are all unique and diverse individuals with complex histories and current situations. **I request that you all submit** a description of your accommodations. Please upload your requests to the "Accommodations" section of your first day's assignment. You may print this syllabus and use the last page to do this, taking a picture and uploading it. You may alternately just type out your accommodations and upload a word document or PDF. **If your accommodations need to go through ODA as well, please include ODA paperwork and make sure to get it to me by the 3<sup>rd</sup> week.** The purpose of this course is to inspire, challenge, and establish knowledge and skills. The assignments and deadlines are designed to reach this goal. However, where called for and compatible with the learning of others, I will problem solve with you to make your course compatible with work, childcare, eldercare, pandemic demands, mental health, and other life responsibilities.

## POLICIES ON CHILDREN

Respecting parenting status is part of my overall commitment to respecting the wonderful diversity of our UNT community. All exclusively breastfeeding babies are welcome in class as often as necessary. While it is not meant to be a long-term childcare solution, bringing an older child to class in response to unforeseen disruptions to life is also perfectly acceptable. I ask that other students work to reasonably create a welcoming environment for such children. If you do bring your child to class I ask that you sit near the door so that if your little one needs special attention or starts behaving in a way that is disruptive to the learning of other students, you may step outside until their needs have been met. Please use good judgement where this is concerned. These policies also apply to elder care.

## SUCCEED AT UNT

[succeed.unt.edu](http://succeed.unt.edu)

### Show Up

Active involvement allows you to make the most of your experience. Participate, ask questions, and engage in BEHV 3440 learning opportunities.

### Find Support

Create study groups with your classmates and visit the course tutor for on-going support. Make appointments well ahead of time to edit your papers at the writing center before turning them in.

### Take Control

If you feel as if you need greater support after the first observation project, sign up with the course tutor to better structure and analyze your behavior so you can succeed.

### Be Prepared

Do the readings before class and study each old material between classes.

### Get Involved

Explore areas within behavior analysis by attending BAASA meetings, Friday BARC presentations, and volunteering in DBA labs and service settings.

### Be Persistent

"That which we persist in doing becomes easier, not that the task itself has become easier, but that our ability to perform it has improved.

**Ralph Waldo Emerson (1803 - 1882)"**

## STUDENT PERCEPTIONS OF TEACHING (SPOT)

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The short SPOT survey will be made available to you with an opportunity to evaluate how this course is taught. You will receive an email from "UNT SPOT Course Evaluation (no-reply@iasystem.org) with the survey link. Please look for the SPOT logo in your UNT email inbox.



## ABSENCES

Lab Manual points **cannot be earned without class attendance**. If you must be absent you should arrange to make up the class by scheduling an appointment with the instructor or TA. Arrange these makeups before the missed class occurs whenever possible, and no later than 5 business days after the class. Makeups should occur as early as possible as out-of-order lessons can render subsequent classes difficult since material may build on previous classes.

**Makeups must be done by appointment with either the instructor or TA. Makeups can require an hour or more, depending on the lesson. Students are responsible for scheduling makeups with the instructor or TA.** Excused absences can be made up for full points, unexcused absences can be made up early for  $\frac{3}{4}$  credit or late for  $\frac{1}{2}$  credit. No more than 2 consecutive classes or 5 total classes can be made up. Neither excused nor unexcused absences may be made up more than 5 business days after the class.

You are highly encouraged to make up any missed classes. You may be missing key information and instruction if you are absent and do not make up the class.

Instructors and TAs reserve the right to adjust this policy and/or make accommodations for unexpected or emergency contexts. Please make sure to communicate with your instructors early and clearly, especially if you have extenuating circumstances, so that we can work with you.

## AI POLICY

Please see the university's AI policy [here](#). Using unauthorized AI is akin to plagiarism and constitutes a breach of academic integrity. I do not authorize the use of AI for any assignments in this class. To be clear, I am not opposed to AI generally. This is a very hands-on class, and using AI would be detrimental to your learning. If you use AI, you will receive a zero on your assignment.

## STUDENT CONDUCT

As members of the UNT community, we have all made a commitment to be part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation. UNT's full Non-Discrimination Policy can be found in the UNT Policies section of the syllabus.

Each student automatically certifies that any material submitted for grading is his/her own independent work. UNT policies **require reporting of plagiarism or any suspected violations** that constitute possible academic misconduct.

Students are responsible for being familiar with the Code of Student Conduct.

## COURSE AND SYLLABUS CHANGES

The instructor reserves the right to change the syllabus for any reason including an unanticipated need for logistical rearrangements or for the purpose of improving the course sequence. Any syllabus changes will be announced in class and/or on canvas. Students are expected to attend to these announcements, to note changes on their syllabus, and to respect any adjustments in due dates or other expectations that come about as a result of such changes.

## BASIC NEEDS

Your safety and wellbeing is more important than anything going on in class. Please feel free to reach out to me to discuss your needs. Any student who faces challenges securing food, housing, or personal safety is urged to contact the Dean of Students for support. Furthermore, please notify me/us if you are comfortable doing so. This will enable me to provide any resources that I can. <https://deanofstudents.unt.edu/>

## STUDENT SUPPORT SERVICES

I want to remind everyone that UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- Student Health and Wellness Center  
(<https://studentaffairs.unt.edu/student-health-and-wellness-center>)
- Counseling and Testing Services  
(<https://studentaffairs.unt.edu/counseling-and-testing-services>)
- UNT Care Team (<https://studentaffairs.unt.edu/care>)
- UNT Psychiatric Services (<https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry>)
- Individual Counseling (<https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling>)

The instructor reserves the right to change this syllabus over the course as necessary.

## CHOSEN NAMES

A chosen name is a name that a person goes by that may or may not match their legal name. If you have a chosen name that is different from your legal name and would like that to be used in class, please let the instructor know. Below is a list of resources for updating your chosen name at UNT.

- UNT Records
- UNT ID Card
- UNT Email Address
- Legal Name

\*UNT eUIDs cannot be changed at this time. The collaborating offices are working on a process to make this option accessible to UNT community members.

## EMERGENCY NOTIFICATION & PROCEDURES

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Blackboard for contingency plans for covering course materials.”

## PRONOUNS

Pronouns (she/her, they/them, he/him, etc.) are a public way for people to address you, much like your name, and can be shared with a name when making an introduction, both virtually and in-person. Just as we ask and don't assume someone's name, we should also ask and not assume someone's pronouns.

You can add your pronouns to your Canvas account so that they follow your name when posting to discussion boards, submitting assignments, etc.

## STUDENT RESOURCES

Academic Resource Center (<https://clear.unt.edu/canvas/student-resources>) Academic Success Center (<https://success.unt.edu/asc>)

UNT Libraries (<https://library.unt.edu/>) Writing Center (<http://writingcenter.unt.edu/>) Writing Lab - <http://writinglab.unt.edu/>

Office of Disability Accommodation - <http://disability.unt.edu/> Learning Center - <http://learningcenter.unt.edu/> UNT

Student Legal Services (<https://studentaffairs.unt.edu/student-legal-services>) Career Center (<https://studentaffairs.unt.edu/career-center>)

UNT Food Pantry (<https://deanofstudents.preparedness> is

## Schedule

| Week   | Date  | Topic   | Assignments Due @ 11:59 PM  | Active Reading due at start of class  |
|--------|-------|---|-----------------------------|---|
| Week 1 | 01/12 | Course Overview   |                             |   |
|        | 01/14 | Basic Issues in Measurement & Behavior as a Scientific Datum                      | Lesson 1 Upload             | Syllabus<br>Reading: Basic issues in measurement<br>Reading: A system of behavior   |
| Week 2 | 01/19 | LABOR DAY – NO CLASS  | Nothing                     | Relax   |
|        | 01/21 | Approaches to defining behavior & Identifying Behavioral Definitions & Procedures | Lesson 2 uploads            | Reading: Selection and definition of behavior<br>Reading: Target behavior<br>Reading: Behavioral definitions in applied behavior analysis: Explicit or Implicit |
| Week 3 | 01/26 | Creating a behavior definition  | Lesson 3 uploads            | Reading: Behavior Definitions   |
|        | 01/28 | Evaluating and Increasing Quality of Observations                                 | Lesson 4 uploads            | Reading: Improving and Assessing the Quality of Behavioral Measurement  |
| Week 4 | 02/02 | Dimensional Properties of Behavior  | Lesson 5 uploads            | Readings: Dimensional quantities and units of measurement   |
|        | 02/04 | Teach-us Presentations Part 1   | Teach-us Worksheet 1 upload | None – Bring an experimental paper that measures your behavior of interest – show this to TA to receive active reading stamp                                    |
| Week 5 | 02/09 | Frequency   | Lesson 6 uploads            | Reading: Frequency of a performance as a fundamental datum<br>Reading: Frequency measures (no active reading)   |
|        |       | Duration  |                             | Reading: Duration measures (no active reading)  |
|        | 02/11 | Frequency in the field  | Lesson 7 uploads            | No reading – this will be an observation period   |
|        |       | Duration in the field   |                             |   |
| Week 6 | 02/16 | Teach-Us Presentations Part 2   | Teach-us Worksheet 2 upload | No Reading  |
|        | 02/18 | Opportunity-Based Recording   | Lesson 8 uploads            | Reading: The effects of behavioral training on staff implementation of discrete-trial teaching  |
| Week 7 | 02/23 | Opportunity-Based Recording   | Lesson 9 uploads            | No reading – Observation Period   |

The instructor reserves the right to change this syllabus over the course as necessary.

|   |              |  |                                 |   |
|---|--------------|--|---------------------------------|---|
|   | 02/25        | Teach-Us Check-In and Systems Project Introduction | Systems Project Upload          | No reading  |
| <b>03/01 – Upload Teach-Us Presentation Videos</b>                    |              |  |                                 |   |
| Week 8  | 03/02        | Teach-us Presentations                             | Upload Stamp                    | No Reading  |
|   | 03/04        | Teach-Us Presentations                             | Upload Stamp                    | No Reading  |
| Spring Break!   |              |  |                                 |   |
| Week 9  | 03/16        | System Project Beta Test                           | Beta Test upload                | No reading – complete beta tests before class   |
|   | 03/18        | Graphing   | Lesson 10.1 upload              | Reading: Graphing<br>Reading: Graphs<br>Reading: ...and rackets   |
| Week 10   | 03/23        | Review Game 1                                      | Upload Stamp                    | No reading – review material  |
|   | 03/25        | Cumulative Record and Standard Celeration Chart    | Lessons 10.1 and 10.3 uploads   | Reading: The Cumulative Record<br>Reading: Precision Teaching: The Standard Celeration Chart  |
| Week 11   | 03/30        | Scatterplot and Review Day                         | Lesson 11 and Review uploads    | Reading: A scatterplot for identifying stimulus control of problem behavior   |
|   | 04/01        | Systems Project Progress Sharing                   | Upload Stamp                    | No Reading  |
| Week 12   | 04/06        | Sampling   | Lesson 12 uploads               | Reading: Continuous interval methods (no active reading)<br>Reading: Use of Discontinuous Methods of Data Collection in Behavior Intervention: Guidelines for Practitioners |
|   | 04/08        | Sampling in the field                              | Lesson 13 upload                | No reading – observation period   |
| Week 13   | 04/13        | Experimental Design and Visual Analysis            | Lesson 14 active reading upload | Reading: Single Subject Design  |
|   | 04/15        | Experimental Design and Visual Analysis II         | Lesson 14 uploads               | No Reading  |
| Week 14   | 04/20        | Review Game 2                                      | Upload Stamp                    | No Reading – Review for game  |
|   | 04/22        | Systems Project Polishing Day                      | Upload Stamp                    | No Reading – Bring SP with you  |
| <b>04/26 EOD: Final Systems Project and Individual Assessment Due</b> |              |  |                                 |   |
| Week 15   | 04/27        | Final Exam Prep                                    | Mock Exam I                     | No reading  |
|   | 04/29        | Final Exam Prep II                                 | Mock Exam II                    | No Reading  |
|   | <b>05/06</b> | <b>Final Exam</b>                                  |                                 | 10 AM – 12 PM   |

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## BEHV 3440 READINGS

- Basic Issues in measurement.** In Simkins, L. D. The basis of psychology as a behavioral science (pp. 126-137). Englewood Cliffs, NJ: Prentice-Hall.
- A system of behavior.** In Skinner, B. F. (1938). The behavior of organisms: An experimental analysis (pp. 3-8). Englewood Cliffs, NJ: Prentice-Hall.
- Selection and definition of behavior.** In Ayllon, T., & Azrin, N. (1968). The token economy: A motivational system for therapy and rehabilitation (pp. 28-39). New York: Appleton-Century-Crofts.
- Target behavior.** In Ayllon, T., & Azrin, N. (1968). The token economy: A motivational system for therapy and rehabilitation (pp. 45-49). New York: Appleton-Century-Crofts.
- Hawkins, R., Dobes, R. (1977). **Behavioral definitions in applied behavior analysis: Explicit or implicit.** In B.C. Etzel, J.M. LeBlanc, and D.M. Baer (Eds.), New developments in behavioral research: Theory, method, and application (165-171). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Behavior definitions.** In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 33-37). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.
- Dimensional quantities and units of measurement.** In Jonhston, J. & Pennypacker, H. (1993). Strategies and tactics of behavioral research (pp. 91-108). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Frequency of a performance as a fundamental datum.** In Ferster, C., Culbertson, S., & Perrott-Boren, M. (1975). Behavior Principles (pp. 321-327). Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Frequency measures.** In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 7-17). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.
- Duration measures.** In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 18-23). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.
- Continuous interval methods.** In Ruggles, T., & Leblanc, J. (1979). Observation methods in applied behavior analysis (pp. 23-33). Kansas Research Institute for early childhood Education of the Handicapped (ECI Document no. 123). University of Kansas: Lawrence Kansas.
- Sarokoff, R.A., & Sturmey P. (2004). **The effects of behavioral skills training on Staff implementation of discrete trial training.** *Journal of Applied Behavior Analysis*, 37, 535-538.
- Cooper, Heron, & Heward (2007) Improving and assessing the quality of behavioral measurement. In *Applied Behavior Analysis* (pp 102-124) Pearson
- Counting every moment.** (2012). *Technology Quarterly*. The Economist.

**The perfected self.** Freedman, D.H. (2012). The Atlantic.

Touchette, P., MacDonald, R., & Langer, S. (1985). **A scatter plot for identifying stimulus control of problem behavior.** Journal of Applied Behavior Analysis, 18, 343-351.

**The cumulative record.** In Ferster, C., Culbertson, S., & Perrott-Boren, M. (1975).

Behavior Principles (pp. 329-341). Englewood Cliffs, NJ: Prentice-Hall, Inc.

**Graphing Data.** In, Alberto. P.A., & Troutmans A. C., (2013) Applied behavior analysis for teachers. (pp 106-123). Boston, MA: Pearson

**Graphs.** In Hartkopf, R. (1985). Math without tears (pp. 100-113). Boston, MA: G. K. Hall & Co.

**...and rackets.** In Hartkopf, R. (1985). Math without tears (pp. 114-125). Boston, MA: G. K. Hall & Co.

Calking, A.B., **Precision Teaching: The Standard Celeration Charts**

(2005). *The Behavior Analyst Today*, 6, 207-215.

**Single-Subject Designs.** In, Alberto. P.A., & Troutmans A. C., (2013) Applied behavior analysis for teachers. (pp 124-170). Boston, MA: Pearson