

SYLLABUS
GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
SPECIAL EDUCATION
EDSE 461 5S1
Analysis and Intervention in Applied Behavior Analysis
Spring 2011
Mondays 4:30 – 7:10 pm
Room 113, Kellar Annex II
3 Credits

PROFESSOR

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OFFICE HOURS Tuesday 2:30 – 4:30, and Thursday 2:30 – 4:30

COURSE DESCRIPTION

- A Prerequisites.** Prior completion of EDSE 460 (Introduction to Applied Behavior Analysis), or permission of instructor.
- B Course description.** Teaches students basic data collection, presentation, and analysis as it pertains to applied behavior analysis; as well as procedures for determining intervention efficacy and selecting, developing, or modifying interventions based on data, in educational and other settings to satisfy part of the educational requirement to sit for the Board Certified Assistant Behavior Analyst (BCABA) examination.

NATURE OF COURSE DELIVERY

Lecture, discussion, written assignments, and in-class presentations.

STUDENT OUTCOMES

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

- Obtain informed consent within applicable legal and ethical standards.
- State primary characteristics of and rationale for conducting a descriptive assessment of student behavior.
- Gather descriptive data of student behavior.
 - Select various methods for gathering descriptive data of student behavior.
 - Use various methods for gathering descriptive data of student behavior.
- Organize and interpret descriptive data.
 - Select various methods to organize and interpret descriptive data.
 - Use various methods to organize and interpret descriptive data.
- State primary characteristics and rationale for conducting a functional analysis as a form of assessment of student behavior.
 - Describe various methods of conducting functional analyses of student behavior.
 - Select various methods of organizing and interpreting functional analysis data.
- Systematically introduce and alter instruction, interventions, or other procedures to analyze their effects on student behavior.
 - Use withdrawal designs.

- Use reversal designs.
- Use alternating treatment designs.
- Use changing criterion design.
- Use multiple baseline designs.
- Identify and address practical and ethical considerations in using various experimental or evaluative designs.
- Describe how would conduct a component analysis of an instructional package, and interpret component analysis data.
- Describe how one would conduct a parametric analysis of an instructional procedure, and interpret parametric analysis data.
- Identify measurable dimensions of student behavior.
- Define student behavior in observable and measurable terms.
- State advantages and disadvantages of using continuous measurement procedures and sampling procedures (e.g., interval and time sampling procedures) for student behavior.
- Select appropriate measurement procedure given dimensions of behavior and logistics of observing and recording student behavior.
- Select a schedule of observing and recording periods.
- Use frequency (i.e., count).
- Select rate (i.e., count per unit of time).
- Use duration.
- Use latency.
- Use interresponse time.
- Use percentage intervals occurrence.
- Use trials to criterion.
- Use interval recording methods (e.g., partial interval sampling, whole interval sampling, momentary time sampling)
- Use various methods of evaluating the outcomes of measurement procedures, such as interobserver agreement and reliability.
- Select a data display that effectively communicates data.
- Use equal interval graphs.
- Use a cumulative record.
- Use data displays that highlight patterns of behavior (e.g., scatterplots).
- Interpret and base decision making on data displayed in various formats.
- Conduct a task analysis.
- Make recommendations about student behavioral targets and instruction and intervention procedures based on factors such as student preference, task analysis, current student skill level, supporting environment, environmental constraints, social validity, assessment results, and best available scientific evidence.
- State target instruction or intervention outcomes in observable and measurable terms.
- Make recommendations regarding student behaviors / skills that must be strengthened, established, weakened, or altered to attain stated instructional or intervention outcomes.
- When a behavior is to be weakened, select an acceptable alternative behavior or skill to be taught or strengthened.
- Determine and make environmental changes that reduce need for behavior analysis services.
- Describe contextual fit variables that must be taken into account when conducting assessments and developing and implementing interventions.

RELATIONSHIP OF THIS COURSE TO PROGRAM GOALS AND PROFESSIONAL ORGANIZATIONS

This course is part of a sequence of courses (that has been approved by the Behavior Analyst Certification Board as meeting the educational requirements necessary to sit for the Board

Certified Assistant Behavior Analyst (BCABA) examination, when part of a completed, relevant Bachelor's Degree program, or taken after completion of a Bachelor's degree program.

In addition to complying with the Behavior Analyst Certification Board's standards for educational content, this course addresses educational content standards set forth by the Council for Exceptional Children (CEC), and, in particular, addresses Standard 8 (Assessment), which is described by the CEC as:

Assessment is integral to the decision-making and teaching of special educators and special educators use **multiple types of assessment information** for a variety of educational decisions. Special educators use the results of assessments to help identify exceptional learning needs and to develop and implement individualized instructional programs, as well as to adjust instruction in response to ongoing learning progress. Special educators understand the **legal policies and ethical principles of measurement and assessment** related to referral, eligibility, program planning, instruction, and placement for individuals with exceptional learning needs, including those from culturally and linguistically diverse backgrounds. Special educators understand **measurement theory and practices** for addressing issues of validity, reliability, norms, bias, and interpretation of assessment results. In addition, special educators understand the appropriate **use and limitations** of various types of assessments. Special educators collaborate with families and other colleagues to assure **nonbiased, meaningful assessments and decision-making**. Special educators conduct **formal and informal assessments** of behavior, learning, achievement, and environments to design learning experiences that support the growth and development of individuals with exceptional learning needs. Special educators use assessment information to **identify supports and adaptations** required for individuals with exceptional learning needs to access the general curriculum and to participate in school, system, and statewide assessment programs. Special educators **regularly monitor the progress** of individuals with exceptional learning needs in general and special curricula. Special educators **use appropriate technologies** to support their assessments.

REQUIRED TEXTS

Aparicio, C.F. (2005). *Reporting human behavior in scientific way*. Guadalajara, Mexico: Universidad de Guadalajara. ISBN 968-7846-98-4.

Cooper, J.O., Heron, T.E., & Heward, W.L. (2007). *Applied behavior analysis (2nd Ed.)*. Upper Saddle River, NJ: Pearson Merrill Prentice Hall. ISBN 0-13-142113-1. (Note: You probably purchased this for EDSE 460, and so will not need to purchase this book again.)

O'Neill, R.E., Horner, R.H., Albin, R.W., Sprague, J.R., Storey, K., & Newton, J.S. (1997). *Functional assessment and program development for problem behavior: A practical handbook*. Boston, MA: Brooks / Cole. ISBN 0-534-26022-5.

ADDITIONAL TEXT MATERIAL

You will need a copy of the Behavior Analyst Certification Board's *Task List and Guidelines for Responsible Conduct*. Download these from the Board's website at www.bacb.com.

COURSE REQUIREMENTS, PERFORMANCE-BASED ASSESSMENT, AND EVALUATION CRITERIA

Requirements and Performance-Based Assessment

Attendance and Class Discussion. *You are expected to attend each class session and to participate in each class discussion.* If you have questions, ask them. If you have a response to another student's question, offer it. If you have a comment, make it. You will only learn by behaving, and the more you do in class, the more opportunities you'll have to learn. A sign in sheet will be circulated at the beginning of each class session. Each student signing in before the sign-in sheet returns to the instructor will receive 2 points for attendance and participation. Students signing afterward will receive 1 point. Students not signing in will receive zero points. *Attendance and Class Discussion points cannot be made up. A total of 28 points are possible through reliable attendance. Missed attendance points cannot be made up. Students missing a class session must consult with their classmates for notes or other materials missed during the missed session.*

Problem Sets. Seven problem sets (Problem Sets 1, 2, 3, 4, 5, 6, and 7 in the Course Schedule, below) are designed to provide additional practice applying data collection, presentation, and interpretation, and design implementation procedures and strategies discussed in class. These will be exercises will often involve accessing web-based video material and collecting data on what one observes. Each of these Problem Sets is worth 10 total possible points.

Signature Assignment - Behavior Intervention Program Development and Evaluation Project. To pull together all you have learned in this course, you will develop a behavioral treatment program that includes data collection, graphing, and parent / instructional staff training procedures, in addition to the behavioral or instructional procedures themselves. You will be provided with a completed functional assessment. From this, you will do the following:

1. Write an operational definition for the behavior to be decreased. (5 points possible)
2. Develop a measurement system for this behavior. You will need to write step by step instructions on how to collect data on the behavior, and develop and include a data collection form. (5 points possible – 1 for selection of appropriate measure, 1 for thoroughness of data collection instructions, 1 for clarity of data collection instructions, 1 for thoroughness of recording form, and 1 for clarity of recording form)
You will submit 1 and 2 together as Problem Set 4. 10 points are possible on Problem Set 4.
3. Analyze the functional assessment interview provided to you and:
 - a. Determine consequences likely maintaining the problem behavior (2 points possible)
 - b. Determine the type of contingency (e.g., positive reinforcement, negative reinforcement, etc.) likely maintaining the problem behavior (2 points possible)
 - c. Determine the settings, people in whose presence, times of day, and days of week when the behavior is most and least likely to occur (4 points possible)
 - d. Determine an alternative behavior already exhibited by the person that would be a suitable replacement for the problem behavior (1 point)

- e. Determine alternative behavior not already exhibited by the person, but which the person could be taught, that would be a suitable replacement for the problem behavior (1 point)
4. Develop an operational definition for the potential alternative behavior you list in 3d (1 point possible)
5. Develop a measurement system for your potential alternative behavior listed in 3d. Must include data collection instructions and a recording form.(4 points possible)
6. Develop an operational definition for the potential alternative behavior you list in 3e (1 point possible)
7. Develop a measurement system for your potential alternative behavior you list in 3e. Must include data collection instructions and a recording form. (4 points possible)
8. Complete a competing behavior model diagram for the functional assessment and the potential alternative behaviors you've selected (15 points possible)
9. From your competing behavior model diagram, select one MO variable, one immediate antecedent variable, and one consequence variable to address, for purposes of decreasing the identified problem behavior and increasing either your alternative behavior from 3d or your alternative behavior from 3e.
 - a. Write Preventive / Preparatory procedures (your MO intervention), in step-by-step, task analysis fashion, explaining to the implementer (e.g., parent or instructional staff person) exactly what to do, when (10 points possible – 4 for thoroughness of instructions, 4 for clarity of instructions, and 2 for logical order of instructions)
 - b. Repeat, for your Instructional Procedures (e.g., intervention targeting the SDs for the problem behavior, and SDs for the alternative behavior you've selected). (10 points possible – 4 for thoroughness of instructions, 4 for clarity of instructions, and 2 for logical order of instructions)
 - c. Repeat, for your Consequence Procedures (e.g., intervention targeting the contingency / contingencies you identified as maintaining the problem behavior, and those you're arranging or enhancing to promote the alternative behavior). (10 points possible – 4 for thoroughness of instructions, 4 for clarity of instructions, and 2 for logical order of instructions)

You will submit 3 – 9 as Problem Set 8. A total of 65 points are possible for Problem Set 8.

10. Write staff / parent training guidelines, explaining how you will accomplish competency-based staff / parent training. Explain which personnel (based only on information contained in the FAI) you would include in the training, and how you would structure the training, as well as reliability and integrity checks. (10 points possible – 6 for thoroughness of training structure outlined, 2 for reliability checking procedures, and 2 for integrity checking procedures).

You will submit 10 and 13 (below) as Problem Set 9. A total of 20 points are possible for Problem Set 9.

11. Select the experimental design that would best examine instructional or treatment efficacy. Why that design is the best for the circumstances and question to be answered (2 points), how you would accomplish it given your procedures, implementers, and circumstances (6 points), and how you would control for threats to internal validity (2 points).
12. Write data review and data-based decision making guidelines, explaining how you will examine the data (and with what frequency) (4 points), and how to determine whether condition change is necessary or whether to continue the current course, or to introduce new treatment or instructional procedures or

implementers (4 points). Ensure that your guidelines comport to the design you selected in number 11.

You will submit 11 and 12 as Problem Set 10. A total of 10 points is possible for Problem Set 10.

13. Develop a generality plan, which explains how you would assure a sufficient range of responses, occurring in a sufficient range of circumstances, and would maintain over time. (10 points possible – 4 for how you would establish setting/stimulus generality, 4 for how you would establish response generality, and 2 for how you would ensure and assess maintenance).

You will submit 10 (above) and 13 as Problem Set 9.

After receiving your scored Problem Set 10, Please combine all of these steps into one coherent, cohesive document and submit it as your signature assignment no later than at the time of the final examination. Your rating on your signature assignment will be based on the sum of scores for problem sets 4, 8, 9, and 10. A total of 65 points is possible. The rubric used for scoring your signature assignment will be as follows:

Criteria	Rating			
	0	1	2	3
		Does Not Meet Expectations	Meets Expectations	Exceeds Expectations
	Student does not submit signature assignment to Taskstream	Earns a score of less than 52 on the Signature Assignment	Earns a score between 52 and 64 on the Signature Assignment	Earns a score of 65 on the Signature Assignment

Problem Sets and Signature Assignments submitted after their due dates. All problem sets submitted after their due date will be assessed a penalty of 10% of possible points to be earned. Similarly, late submission of the Signature Assignment will result in a reduction in number of points earned by 10% of the total possible points.

Final Examination. This test will consist of 50 items, and will be given as a pretest on the first night of class, and as a final exam on the last night of class. Credit toward your final score will only be given for your performance on this test on the last night of class. After scoring the pretest, your instructor will provide you with a breakdown of your scores per content area addressed by the test. When taken as a final exam, a total of up to 50 points will be possible.

Grading Scale

<u>Assignment Type</u>	<u>Possible Points Each</u>	<u>Number</u>	<u>Total Possible Points for Assignment Type</u>
Attendance / Participation	2 / session	14 sessions	28 points
Problem Sets	10 each	7 problem sets	70 points
Signature Assignment	65 points	1 Assignment	65 points
Final Exam	50 points	1 exam	50 points
			213 points

A = 182 – 213 B = 161-181 points C = 140 - 161 points
 D = 119 - 139 points F = fewer than 119 points

Note: To incentivize correcting errors made on problem sets and promote mastery of course material, students may correct errors made on Problem Sets and resubmit

corrections at or before the time of the Final Examination. Corrected errors may earn up to ½ credit. No corrections will be accepted after the final exam has begun.

Course Schedule

In the table below, ABA refers to the Cooper, Heron, and Heward text, EA to the O'Neill et al. text, and RHB to the Aparicio text. Particular objectives addressed during each session are taken from the BACB's *Task List (TL)*, *Guidelines for Responsible Conduct (GRC)*, and *Disciplinary Standards (DS)*, and are listed in this table by TL, GRC, or DS objective number.

Date	Topic / Objectives / Read before class	Assignments Due / Activities
1.24.11 Week 1	Orientation to Course / Review Syllabus / Pretest	Take Pretest
1.31.11 Week 2	Ethical Considerations, Defining Behavior and Direct Measures/ TL 1.4, 6.1, 6.2, 6.6 - 6.10, GRC 2.06 – 2.09 / Read ABA Chapters 1 and 2, GRC 2.06 – 2.09. RHB pp. 19-38.	Review consent, confidentiality, and documentation guidelines; Practice operationally defining behavior, practice measuring behavior
2.7.11 Week 3	Indirect Measures / TL 6.3, 6.4, 6.11 – 6.13 / RHB pp. 39 - 74	Submit Problem Set 1 at beginning of class / Practice measuring behavior
2.14.11 Week 4	Graphing Data and Interpreting Graphs / TL 7.1, 7.2, 7.4, 7.5, 7.6 / Read ABA Chapter 6	Submit Problem Set 2 at beginning of class / Practice Graphing and Visual Inspection of Data
2.21.11 Week 5	Introduction to Experimental Design in Applied Work / TL 5.1, 7.6 / Read ABA Chapter 7	Submit Problem Set 3 at beginning of class / Lecture and Discussion on Internal and External Validity
2.28.11 Week 6	Withdrawal Designs and Alternating Treatment Designs / TL 5.1a, 5.1b, 5.1c, 5.2, 5.3, 5.4 / Read ABA Chapter 8.	Submit Problem Set 4 at beginning of class (Note: this is Steps 1 and 2 for your Signature Assignment) / Lecture, discussion, and practice with withdrawal and alternating treatment designs
3.7.11 Week 7	Multiple Baseline and Changing Criterion Designs / TL 5.1d, 5.1e, 5.2 / Read ABA Chapter 9	Submit Problem Set 5 at beginning of class / Lecture, discussion, and practice with multiple baseline and changing criterion designs.
3.21.11 Week 8	Experimental Functional Analysis and Functional Analysis Driven Instruction or Treatment / TL 4.4, 4.5, 4.6 / Read ABA Chapter 24	Submit Problem Set 6 at beginning of class / Lecture, discussion, and practice with experimental functional analysis and FA driven procedural selection
3.28.11 Week 9	Functional Assessment and Functional Assessment Driven Instruction or Treatment / TL 4.1, 4.2, 4.3, 8.3, 8.4, 8.6 / Read FA pp. 1 – 84.	Submit Problem Set 7 at beginning of class / Discussion and practice with FAI, competing behavior model, and selecting or developing interventions based on competing behavior model.
4.4.11 Week 10	Promoting Generality / TL 9.28 and 9.29 / Read ABA Chapter 28	Lecture, discussion, and practice on planning for generality
4.11.11 Week 11	Contextual Fit; Training Parents, Instructional Staff, and others to Implement Behavior Change Procedures / TL 8.8 / No Reading	Submit Problem Set 8 at beginning of class (Note: this is steps 3 – 9 of your Signature Assignment) / Lecture, discussion, and practice on competency based training
4.18.11 Week 12	Assessment-Driven Intervention, and Evaluating Instructional Efficacy and Making Data-Based Decisions / TL 1.6, 1.8, 1.12, 8.2, 8.4 / No Reading	Submit Problem Set 9 at the beginning of class (Note: this is steps 10 and 13 of your Signature Assignment) / Additional discussion and practice on data-based decision making and determining intervention efficacy

4.25.11 Week 13	Empirically Supported Interventions and Research in Applied Behavior Analysis / TL 1.12 / No Reading	Submit Problem Set 10 at beginning of class (Note: this is steps 11 and 12 of your Signature Assignment).
5.2.11 Week 14	Presentations	Participate in peer-review of colleagues' proposed interventions and procedures
5.16.11 Week 15	Final Examination	Submit Signature Assignment to Taskstream

Using Taskstream. As mentioned previously in this syllabus, your signature assignment must be submitted to Taskstream no later than at the time the final exam begins, as indicated in the course schedule (above). If you have not previously used Taskstream, please go to <http://gse.gmu.edu/programs/sped/> for guidance on how to log on to Taskstream, and how to submit your work.

Every student registered for any EDSE Course as of the Fall 2007n semester is required to submit signature assignments to Taskstream (regardless of whether a course is an elective, a one-time course, or part of an undergraduate minor). Taskstream information is available at <http://gse.gmu.edu/programs/sped/>. Failure to submit the Signature Assignment to Taskstream will result in the course instructor reporting the course grade as Incomplete (IN). Unless this grade is changed upon completion of the required Taskstream Submission, the IN will convert to an F nine weeks into the following semester.

Contacting Your Instructor

You may contact Dr. Hoch by phone at 703.993.5245 (office), or, if he is not available in his office and the matter is urgent, by cell at 703.987.8928. You may also e-mail Dr. Hoch at thoch@gmu.edu, or drop by his (or her) office at 107 Kellar Annex II.

Electronics off and put away! Unless as directed by your instructor, all electronics (computers, phones, iPods, iPads, etc.) must be turned off and put away throughout each class period.

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

Student Expectations

- Students must adhere to the guidelines of the George Mason University Honor Code [See <http://academicintegrity.gmu.edu/honorcode/>].
- Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See <http://ods.gmu.edu/>].
- Students must follow the university policy for Responsible Use of Computing [See <http://universitypolicy.gmu.edu/1301gen.html>].
- Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.
- Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

- Students are expected to exhibit professional behaviors and dispositions at all times.

Campus Resources

- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See <http://caps.gmu.edu/>].
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See <http://writingcenter.gmu.edu/>].
- For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu/>].