College of Education and Human Development
Division of Special Education and disAbility Research

EDSE 621-DL1: *Applied Behavior Analysis: Empirical Bases*

**CRN:** 79887, 3 - Credit(s)

**Fall 2012**

**Instructor:** Dr. Theodore Hoch

**Phone:** 703.993.5245

**E-Mail:** thoch@gmu.edu

**Office Hours:** Monday and Thursday from 1:30 pm – 3:30 pm in person and through Blackboard Collaborate

**Meeting Dates:** 08/27/12 - 12/19/12

**Meeting Day(s):** Tuesday

**Meeting Times:** 5:30pm - 6:30pm

**Meeting Location:** Internet

**Course Description:**
Focuses on basic content of applied behavior analysis. Teaches how to implement behavioral procedures and develop behavioral programs for clients with fundamental behavioral needs.

**Prerequisite(s):** EDSE 619

**Corequisite(s):** EDSE 619

**Advising Contact Information:**
Please make sure that you are being advised on a regular basis as to your status and progress through your program. For assistance contact the Special Education Advising Office at (703)993-3145.

**Nature of Course Delivery:**
Learning activities include the following:
1. Class lecture and discussion
2. Application activities
3. Small group activities and assignments
4. Video and other media supports
5. Research and presentation activities
6. Electronic supplements and activities via Blackboard
Learner Outcomes:
Upon completion of this course, students will be able to:

- Describe philosophical assumptions underlying data-based decision making in applied behavior analysis.
- Define, describe, identify, exemplify, and use direct measures of behavior.
- Define, describe, identify, exemplify, and use indirect measures of behavior.
- Construct and interpret equal interval graphs.
- Construct and interpret standard celeration charts.
- Describe, identify, and exemplify single subject experimental design.
- Describe and exemplify data-based decision making using visual inspection of graphically presented behavioral data in the context of single subject experimental designs.
- Describe and identify utility and factors affecting use of single subject designs for evaluating instructional, behavioral, and other interventions in applied settings.
- Describe, identify, and exemplify ethical factors regarding data collection, data management, and data based decision making as described by the Guidelines for Responsible Conduct and the Disciplinary Standards.
- Read, interpret, and evaluate articles from the behavior analytic literature.

Required Textbooks:


Recommended Textbooks:

None, although those wishing to complete the optional, extra credit assignment listed on page 11 of this document will need to purchase a subscription to the BCBA Examination Study software, available through Behavior Development Solutions at [http://www.behaviordevelopmentsolutions.com/](http://www.behaviordevelopmentsolutions.com/).

Required Materials:

Given the possibility of computer or internet difficulties some students may experience from time to time, students must consider and identify alternative availability of computers and internet access (e.g., public libraries, their employer (if permissible by the employer), internet cafes, etc.) within the first week of this course to ensure that they will be able to complete their assignments in a timely manner.
Similarly, you will need to have access to a scanner so that you can scan some of your assignments, save them as pdf files, and e-mail them to your instructor. Please locate one you can use regularly, and a back-up. Most copy centers (such as FedEx Office or Staples) have scanning services.

Additional Readings:

Articles listed below published in the *Journal of Applied Behavior Analysis* may be downloaded directly from the journal’s website at [http://www.ncbi.nlm.nih.gov/pmc/journals/309/](http://www.ncbi.nlm.nih.gov/pmc/journals/309/). To obtain articles from the list published in other journals:

2. Click on Databases.
3. Scroll down to, and click on Psych Info.
4. Type in the title or other relevant information in the search term boxes.
5. Hit Search.
6. Locate the reference for the article in the resulting list.
   a. If there is a doi number with the reference, click on it. A pdf of the article will appear shortly.
   b. If there is no doi number, click on MasonLink.
      i. Select the article from the information that pops up next, or
      ii. Request a copy of the article through interlibrary loan if it is not available through our library.
7. Alternatively, you may visit or phone the Fenwick library (703.993.2250) on the GMU Fairfax, Virginia campus and ask a librarian for assistance.

*Single subject design methodology:*


Automatically reinforced behavior:


College instruction:


Community applications:


**Compliance:**


**Driver safety:**


**Education:**


**Functional analysis methodology:**


**Geriatrics:**


**Parenting:**


Psychiatric issues:


Sports applications:


Course’s Relationship to Program Goals and Professional Organizations:

This course is part of the George Mason University, Graduate School of Education (GSE), Special Education Program for Applied Behavior Analysis Graduate Certificate. This program complies with the standards for teacher licensure established by the Council for Exceptional Children (CEC), the major special education professional organization. The CEC Standards are listed on the following website:
The content of the courses in this program is derived from the Task List published by the national Behavior Analyst Certification Board (BACB) as well as the Board’s Guidelines for Responsible Conduct. The BACB Standards are listed on the following website: For more information on the Board and the examination, please visit the Board’s website at www.bacb.com. The CEC standard that will be addressed in this class is Standard 8: Assessment. *NOTE: NCATE Assessments (in many but not all courses) may address additional CEC and/or BACB standards.

Policies (Attendance and Late Work Policies):

Attendance Policy: Missed synchronous discussions may not be made up. With regard to this course, in general, given the possibility of computer or internet difficulties some students may experience from time to time, students must consider and identify alternative availability of computers and internet access (e.g., public libraries, their employer (if permissible by the employer), internet cafes, etc.) within the first week of this course to ensure that they will be able to complete their assignments in a timely manner.

Late Work Policy: Work submitted after the due date indicated in the Schedule on the following pages of this document will be assessed a 10% possible point reduction. For example, an assignment with a total of 10 possible points on which a student earns 8 points will result in 7 points being recorded in the gradebook (and counting toward the student’s total score), given a reduction of 10% of the points possible for this assignment.

Grading Scale:
A = 346 - 364 points
A- = 328 - 345 points
B = 291 - 327 points;
C = 255 - 290 points;
F < 255 points

Schedule:

The assignments that appear in the schedule below are described as follows:

COURSE REQUIREMENTS, PERFORMANCE-BASED ASSESSMENT, AND EVALUATION CRITERIA

Requirements and Performance-Based Assessment
Blackboard Discussion Board Items. For weeks indicated below, in conjunction with your readings from *Controversial therapies for developmental disabilities*, respond to the week’s two Discussion Board items. To respond, first do the assigned reading. Next, go to the week’s Discussion Board items on Blackboard. Read your instructor’s question and your classmates’ responses. Respond directly to the your instructor’s question, or to content posted by your classmates. Posts must be made during the weeks for which they are assigned. You will earn 2 points for each post made on time. Late posts earn 1 point.

Embedded Module Quizzes. Select content presentation modules have multiple choice quiz questions embedded at their end, to assess comprehension of the material presented in that presentation. When you reach these questions, please answer them by selecting the best answer. After you have answered all of the questions, please wait for the SEND screen. When the screen appears, please hit SEND. Your score will be registered in the online gradebook. Each question is worth 1 point, and there is a total of 50 embedded quiz questions.

Synchronous Class Discussion. You are expected to participate in each of the live class discussions held through Blackboard Collaborate. 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 doing, and the more you do, the more you’ll learn. You will earn two points for each synchronous class discussion you attend. Missed Discussion points may not be made up.

Problem Sets. You will complete these per instructions contained on each problem set, and submit them at the beginning of the sessions for which they are indicated as due in the schedule below. A total of 10 points is possible for each correctly completed Problem Set submitted on time; up to 9 points for those submitted late. *Incorrect responses may be corrected and resubmitted once, for up to ½ credit for each corrected response.* Corrected problem sets will be accepted up to the time of the final examination; none will be accepted afterward.

Group Assignments. You will be assigned to a working group of 4 – 5 members during the week of 27 August 2012, and a Blackboard Collaborate Room will be created for you then. You will need to meet with your working group to complete the following assignments:

**Ethical Dilemmas.** There are six Ethics Presentations posted on Blackboard in Presentations. Related to each, there is a series of questions. Please develop a schedule with your working group for watching the presentations (separately) and reading the relevant portions of your *Bailey & Burch (2011)* text (on your own). Then, meet with your group through Blackboard Collaborate, per your schedule. Choose a group discussion leader. Discuss and work through the questions as a group. Each member participating in a discussion will earn 5 points per discussion.

**Make Your Own Experiment.** Your group will be assigned two scenarios: one applied scenario and one basic research scenario. For each, you will be asked to:
1. develop a Declaration of Professional Practice (for the applied scenario) based on the sample in the Bailey & Burch text or an informed consent form for participants, based on the BACB Guidelines for Responsible Conduct (2 points);
2. develop a behavioral definition for the identified problem behavior (1 point);
3. select a measure for the behavior of interest (and give the rationale for selecting this measure) (1 point);
4. develop a recording form for collecting data (2 points);
5. write step by step instructions for collecting data (2 points);
6. select a design that will best answer the question asked (and give the rationale for that design) (2 points);
7. describe, step by step, how you will implement that design, indicating:
   a. How you will begin baseline data collection (1 point);
   b. Decision rules for introducing your intervention (1 point);
   c. Decision rules for withdrawing and for reintroducing your intervention (if appropriate) or for introducing your intervention in another setting (or for another therapist, subject, behavior, etc.) (if appropriate) (1 point); and
   d. How you will control for relevant threats to internal validity (1 point)
8. Construct a graph of possible data that would show functional control of the intervention over the behavior, using the design you chose (2 points).
9. One member of the group will collect all of the items, assemble them into one document, and submit them by e-mail to the instructor (copied to all other group members) by midnight on Friday 30 November 2012.

**Research Worksheets.** The Research Worksheet outline will be available on Blackboard, in Course Documents. You will select one set of articles from the list appearing earlier in this syllabus (other than the Single Subject Design Methodology articles) and complete a research worksheet for each article in that set (completing five research worksheets in all). Research worksheets are due no later than at the beginning of the course sessions indicated below. Worksheets turned in on time or early can earn a total of 10 possible points each; those turned in late can earn up to 9 points each.

**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.

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Possible Points per Instance</th>
<th>Number of Instances</th>
<th>Points Possible for Assignment Type</th>
<th>Cumulative Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion Board Items</td>
<td>2 points per Item</td>
<td>26 Items</td>
<td>52 points possible</td>
<td>52 points</td>
</tr>
<tr>
<td>Embedded Quiz</td>
<td>1 point per Question</td>
<td>50 Questions</td>
<td>50 points</td>
<td>102 points</td>
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<tr>
<td>Questions</td>
<td>Question</td>
<td>possible</td>
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<tr>
<td>Problem Sets</td>
<td>10 points Set</td>
<td>8 Sets</td>
<td>80 points</td>
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<td></td>
<td></td>
<td></td>
<td>182 points</td>
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<tr>
<td>Research Worksheets</td>
<td>10 points per Worksheet</td>
<td>5 Worksheets</td>
<td>50 points</td>
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<td></td>
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<td></td>
<td>232 points</td>
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<tr>
<td>CITI Training</td>
<td>10 points per Completion Certificate</td>
<td>1 Completion Certificate</td>
<td>10 points</td>
<td>242 points</td>
</tr>
<tr>
<td>Ethical Dilemma</td>
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<tr>
<td>Discussion</td>
<td>5 points per Discussion</td>
<td>6 Discussions</td>
<td>30 points</td>
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<td></td>
<td>272 points</td>
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<tr>
<td>Make Your Own</td>
<td>16 points per Experiment</td>
<td>2 Experiments</td>
<td>32 points</td>
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<tr>
<td>Experiment</td>
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<td>304 points</td>
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</tr>
<tr>
<td>Participation in</td>
<td>2 points per Discussion</td>
<td>5 Discussions</td>
<td>10 points</td>
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<tr>
<td>Synchronous Discussion</td>
<td></td>
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<td>314 points</td>
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<tr>
<td>Final Exam</td>
<td>50 points per Exam</td>
<td>1 Exam</td>
<td>50 points</td>
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<td></td>
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<td>364 points</td>
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A = 346 - 364 points; A- = 328 - 345 points; B = 291 - 327 points;
C = 255 - 290 points; F < 255 points

*Extra Credit.* Completing the following Behavior Development Solutions modules:

- Experimental Evaluation of Interventions
- Measurement of Behavior

and e-mailing or hand delivering to your instructor the certificates of completion for each of these modules will earn 10 points of extra credit per certificate submitted.

Alternatively, one may complete research worksheets for an additional content area from the content areas listed earlier in this syllabus, submitting them no later than midnight on 17 December 2012, for up to 4 points per worksheet. Should one choose this option, one must complete a research worksheet for each of the five articles in the content area, and must submit all five, for a total of 20 possible points.

In the table below, ABA refers to the Cooper, Heron, and Heward text (*Applied Behavior Analysis*), Ethics to the *Ethics for Behavior Analysts* text, and CT refers to the *Controversial Therapies* text.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic / Objectives</th>
<th>Assignments Due / Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week of 27 August 2012</td>
<td>Introduction to Course</td>
<td>View <em>How to Take This Course</em></td>
</tr>
<tr>
<td>Week 1</td>
<td>Assignment to Working Groups</td>
<td>Print Syllabus</td>
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<td></td>
<td></td>
<td>Complete all activities and assignments in Module 1 Folder before 3 September 2012</td>
</tr>
</tbody>
</table>
| Week of 3 September 2012 | Introduction to Single-subject design | E-mail your working group mates  
Schedule “getting to know you” blackboard collaborate session with working group  
Read CT Ch 1 and 2  
Read Ethics Preface & Ch 1  
Read ABA Ch 1, pp. 65 – 69  
Complete all activities and assignments in Module 2 Folder before 10 September 2012 |
| Week of 10 September 2012 | Measurement – Why bother? Direct Measures of Behavior: count, cumulative count, duration, rate, latency, interresponse time, extensity, intensity | Read CT Ch 3 and 4  
Read ABA pp. 73 – 80, 83 - 90  
Read Ethics Ch 2  
Complete all activities and assignments in Module 3 Folder before 17 September 2012 |
| Week of 17 September 2012 | Measurement – Indirect Measures of Behavior: accuracy, intensity, trials to criterion, percentage, percentage occurrence, percentage intervals occurrence, permanent products, and other estimates; Selecting appropriate measures; General data collection issues | Problem Set 1 Due by midnight on 17 September 2012  
Read CT Ch 5 and 6  
Read Ethics Ch 3 and 4  
Read ABA pp. 81 – 82, 85 – 87, 90 – 100  
Complete all activities and assignments in Module 4 Folder before 24 September 2012 |
| Week of 24 September 2012 | Data Management: Graphic data display and graph preparation; maintaining data tables; data summary; equal interval graphs; cumulative count graphs | Problem Set 2 Due by midnight on 24 September 2012  
Read CT Ch 7 and 8  
Read ABA Ch 6  
Read Ethics Ch 5  
Complete all activities and assignments in Module 5 Folder |
| Tuesday 25 September 2012 | 5:30 – 6:30 pm on Blackboard Collaborate – Automated Data Collection – Behavior Tracker Pro |
| Week of 1 October 2012 | Standard Behavior Charts | Problem Set 3 Due by midnight on 1 October 2012  
Read CT Ch 9 and 10  
Read Ethics Ch 6 and 7  
Read ABA Ch 7  
Complete all activities and assignments in Module 6 Folder |
<p>| Tuesday 2 October 2012 | 5:30 – 6:30 pm on Blackboard Collaborate – Automated Data Collection – The KIHd System |
| Week of 8 | Introduction to Experimental Analysis; | Problem Set 4 Due by midnight on 8 |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2012</td>
<td>Internal and External Validity; Withdrawal Designs (AB, ABA, ABAB, BAB, etc.); Component Analysis; Parametric Analysis</td>
<td>October 2012 • Read <strong>CT</strong> Ch 11 and 12 • Read <strong>ABA</strong> pp. 177 – 186 • Read <strong>Ethics</strong> Ch 8 and 9 • Complete all activities and assignments in Module 7 Folder</td>
</tr>
<tr>
<td>Week 8</td>
<td>Alternating Treatments and Pairwise Comparison Designs</td>
<td>Week of 15 October 2012 • Problem Set 5 Due by midnight on 15 October 2012 • Read <strong>Ethics</strong> Ch 10 • Read <strong>CT</strong> Ch 13 and 14 • Read <strong>ABA</strong> pp. 187 - 194; Watson et al. (1985), Sindelar et al. (1985), &amp; McGonigle et al. (1987) • Complete all activities and assignments in Module 8 Folder</td>
</tr>
<tr>
<td>Tuesday 16 October 2012</td>
<td>5:30 – 6:30 pm on Blackboard Collaborate – Catching up on content thus far / question and answer session</td>
<td>Week of 22 October 2012 • Problem Set 6 Due by midnight on 22 October 2012 • Read <strong>CT</strong> Ch 15 and 16 • Read <strong>ABA</strong> Ch 9 • Read <strong>Ethics</strong> Ch 11 • Complete all activities and assignments in the Module 9 Folder</td>
</tr>
<tr>
<td>Week 10</td>
<td>General Issues in Measurement and Experimental Design – Review of Designs and Functional Control</td>
<td>Week of 29 October 2012 • Problem Set 7 Due by midnight on 29 October 2012 • Read <strong>CT</strong> Ch 17 and 18; Respond to Discussion Board Items 17 and 18 on Blackboard • Read <strong>ABA</strong> Ch 5, 10 • Read <strong>Ethics</strong> Ch 12 • Complete all activities and assignments in Module 10 Folder</td>
</tr>
<tr>
<td>Tuesday 30 October 2012</td>
<td>5:30 – 6:30 pm on Blackboard Collaborate – Catching up on content thus far / question and answer session</td>
<td>Week of 5 November 2012 • Empirically supported interventions; Working with Teachers and others to get data-based decision making into their work • Problem Set 8 Due • Read <strong>Ethics</strong> Ch 13 and 14 • Read <strong>CT</strong> Ch 19 and 20 • Complete all activities and assignments in Module 11 Folder</td>
</tr>
<tr>
<td>Week 11</td>
<td>Research Ethics and Participant</td>
<td>Week of 12 • Read <strong>Ethics</strong> Ch 15 and 16</td>
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<tr>
<td>Date</td>
<td>Week</td>
<td>Topic</td>
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<td>November 2012</td>
<td>Week 12</td>
<td>Protection</td>
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<tr>
<td>Week of 26 November 2012</td>
<td>Week 13</td>
<td>Make Your Own Experiment Week!</td>
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<tr>
<td>Week of 3 December 2012</td>
<td>Week 14</td>
<td>Measuring psychiatric symptoms and medication effects</td>
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<tr>
<td>Week of 10 December 2012</td>
<td>Week 15</td>
<td>Final Exam – must complete online no later than midnight on 17 December 2012</td>
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<tr>
<td>Tuesday 11 December 2012</td>
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**GMU POLICIES AND RESOURCES FOR STUDENTS:**

*a.* Students must adhere to the guidelines of the George Mason University Honor Code [See http://academicintegrity.gmu.edu/honorcode/].

*b.* Students must follow the university policy for Responsible Use of Computing [See http://universitypolicy.gmu.edu/1301gen.html].

*c.* 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.
d. 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/].

e. 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/].

f. Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

g. 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/].

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

CORE VALUES COMMITMENT
The College of Education & Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles. http://cehd.gmu.edu/values/Revised 06/25/12

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See http://gse.gmu.edu/].

Note: This syllabus may change according to class needs. Students will be advised of any changes immediately through George Mason e-mail and/or through Blackboard.