FOUNDATIONS OF EXPERIMENTAL ANALYSIS OF BEHAVIOR

Course: EAB 3013c
Spring 2010, Mon/Wed

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Office: Bldg 51, 3441
Office Hours: Tue and Wed 1:00-2:00, other times by appointment
Email: iiversen@unf.edu

Prerequisite for this class:
Having passed both Research Methods and Research Methods Lab (C for BA students and B for BS students)

I. Course Material:

1) Paul Chance, Learning and Behavior, 6th Edition (i-chapter version –see below)
2) APA style manual, 6th Edition – notice it is a New Edition (Book is Blue).
3) Supplemental texts supplied by the Instructor
4) Lectures and handouts by instructor (material placed on Blackboard)
5) Class presentations by students (see below)
6) Your own research data obtained in the lab

You can purchase the individual chapters that we use through this link:

II. Purpose of the course:

You will learn to set up and conduct basic experiments in behavior analysis, discuss behavior analysis, read and write research reports, draw and read graphs, and understand the fundamentals of behavior from the perspective of operant conditioning. You will also learn how to handle animals (rats) in a laboratory situation and learn about ethical principles associated with animal research. This class should give you considerable hands-on experience regarding how experiments are done, how they are described, how results are handled from the very first raw data numbers to the conclusion, how operant conditioning can be used to change behavior, and how to prepare reports according to the APA style.

This class is a 4-credit hour experimental psychology course. Therefore, you should expect to spend more time than for a 3-credit hour lecture type course. You will be spending time with the actual hands-on experience in the laboratory, handling of the data, and the report writing.

The class meets twice each week for lectures and/or laboratory sessions. Usually we will lecture first for about 30-40 minutes and then run sessions in the laboratory for the remainder of the class period. On occasion, we may need to add extra time outside of the allotted class time for training of animals. We will arrange such time periods as we move along in the semester.

III. Teaching methods:

You will be studying Learning and Behavior quite on your own. It is not a difficult text, and it provides some very basic information. In each class hour the instructor will highlight certain issues from the text, present additional material, and lead discussions with the class. As additional stimulation, we will see some videos about behavior analysis. Also, to supplement the information from the textbook, students will give presentations in class on assigned literature. We will also read some handouts of original research articles on operant conditioning. Most importantly, you will gain some direct laboratory experience. The animals will no doubt teach you a lot, so spend time with them.

Relevant material for the course will be presented on Blackboard.
IV. Course Activities:

1) **Laboratory Experiments**: In small groups of 2 or 3 students, you will conduct three experiments with rats. The topics for the experiments serve to introduce you to the basics of operant conditioning.

2) **APA-Style Experimental Reports**: You will prepare three laboratory reports, one for each of the experiments you do. The reports must be prepared according to the APA style manual, 6th edition. You are responsible for learning the APA style on your own; however, we will go through some of the APA guidelines in class. Because you will be doing experiments with one or more partners, you will have to collaborate to some extent on the reports regarding preparation of graphs and details of the procedure. However, you are responsible for all parts of your own report, and each student receives an independent grade.

   For each report, there is a source of extra credit in this course; you can earn 3 points if you show a *completely finished* report personally to the instructor at least one class period before it is due. You will get quick feedback on the report, and you can then fix possible mistakes before turning it in on the due date. In addition, for each report, if you hand it in *personally at the beginning of the class period on the due date and stay for the remainder of the class period*, you will receive an additional extra credit of 2 points. If you turn in your report after the class period on the day it is due, 5 points will be subtracted for each calendar day it is late, with the first day beginning when class ends on the due date. Thus, if you turn in your report on the same day that it is due but after class is over, 5 points will be subtracted from your score; if you hand in the report on the day after the due date, 10 points are subtracted, etc. There is no extra credit given for turning the report in before class starts.

   The first Experimental report is about 6 - 8 typed, double-spaced full text pages plus front page, abstract page, figures/tables, figure captions page, and references (all prepared according to APA style). The second and third Experimental reports are longer, about 8 - 12 typed, full text pages plus the above mentioned material. For all reports, you should perform a literature search so that you can include information in your report about previous findings of related experiments. Your reports should make contact with such literature in addition to describing the results of your experiment (information about report preparation will be given later).

   Report 1 describes Experiment 1, which is a simple demonstration of shaping by successive approximation, acquisition of operant behavior, extinction of operant behavior, and reacquisition of operant behavior.

   Report 2 describes Experiment 2, which is about discriminative control of operant behavior.

   Report 3 describes Experiment 3, which is about differential reinforcement of response duration.

3) **Class presentation**: Based on outside reading of original research reports on behavior analysis, each student will give one class presentation for the class for a 10-minute period. The topics for the class presentations will be assigned by the instructor early in the semester. The topics for the presentations will be distributed over the semester to roughly match the topics covered by the textbook. You must write a 1-page summary of your presentation so that the other students can have some material about your presentation (class presentation material appears on exams). You can either copy these handouts yourself to pass around on the day of your presentation, or you can give the summary to the instructor a few days prior to your presentation; in that case the instructor provides the copies. The presenter is expected to be able to answer questions about the material he/she presents. Class presentations spread over the semester and are graded on a 20-point scale by the class as a whole. Using the overhead projector and preparing the presentation with PowerPoint is required. Each presenter must also send the one page summary and the PowerPoint presentation file to the instructor by email for approval at least one day prior to the presentation. The instructor will ask for revision if necessary.

4) **Web page presentation**: Each student will present to class a given webpage and describe what is on the page and discuss some of the links it contains. The student will basically walk the class through the webpage during the presentation. No handout or PowerPoint presentation is necessary. Each webpage will be about material relevant for the topic of animal learning and/or Behavior Modification. Each presentation should last about 5 minutes. A list of topics will be given early in the semester. Webpage presentations are distributed over the semester such that each student has sufficient time to prepare for the presentation. Presentations are graded on a 10 point scale by the class as a whole.
5) **Exams**: Three exams consist of multiple-choice questions, short-answer questions, and questions related to graphical presentation of data. Exams will cover selected material from Learning and Behavior, lecture material, handouts, supplemental readings, class presentations, videos, homework, laboratory experiments, graphical material, etc. Each exam allows you to earn up to 50 points. **It is a good idea to bring a calculator and a ruler to the exams.**

6) **Literature Summaries**: Each student should prepare four one-page summaries of actual research articles. The articles are available in journals in the UNF library. You select them from a list supplied by the instructor. This task serves to acquaint you with locating and reading experimental literature. Each summary earns 5 points. APA style not required.

7) **Homework**: During the semester, there will be some homework or in-class assignments. The material is primarily library assignments, data analysis, drawing of graphs, and some computer exercises, etc. Due dates will be announced in class. The homework is not graded. However, up to 20 points will be subtracted from your class total if the instructor decides that you are not participating in the homework assignments.

8) **Lab Attendance**: There is a formal laboratory attendance requirement. You are working in a group, so if you come late, leave too early, go in and out of the lab during class, or fail to come at all, it makes the research task more difficult for your lab partners, and the research project may suffer from such problems. The instructor therefore takes attendance in the lab. A student looses 2 points if he/she is not present in the lab when the Instructor takes attendance. Legitimate reasons for occasionally failing to appear in the lab, which can be documented, such as accidents, disease, arrests, etc., will not result in point deductions.

V. **Grading**. Final grade is based on the following points:

<table>
<thead>
<tr>
<th>Task</th>
<th>Points</th>
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<tbody>
<tr>
<td>1: APA-style Report 1</td>
<td>40</td>
</tr>
<tr>
<td>2: APA-style Report 2</td>
<td>40</td>
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<tr>
<td>3: APA-style Report 3</td>
<td>40</td>
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<tr>
<td>4: Exam I</td>
<td>50</td>
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<td>5: Exam II</td>
<td>50</td>
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<tr>
<td>6: Exam III</td>
<td>50</td>
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<tr>
<td>7: Class presentation</td>
<td>20</td>
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<tr>
<td>8: Web page presentation</td>
<td>10</td>
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<tr>
<td>9: Four Lit Summaries (5 points each)</td>
<td>20</td>
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</tbody>
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**Total Points:** 320

**Extra Credit:**

Extra credit: Total 15 points

You can earn 3 points for showing each APA-style Experimental Report for feedback before it is due (3 points for each report), and you can earn 2 points for each Report by personally handing in the report at the **beginning** of class when it is due and **remaining in class** (2 points for each report).

Excluding the extra credit, a total of 320 points can be earned for the course. The final grade is calculated based on the following criteria:

- A: 320 - 288
- B: 287 - 255
- C: 254 - 207
- D: 206 - 160
- F: 159 - 0

**NOTICE**: An additional requirement for earning a final grade of C or higher is that you must hand in all three APA-style Experimental Reports.
Notes:

No food, drink (including water), or candy (including gum and mints) is allowed in the animal laboratory. You will be asked to leave it outside or to spit it out. Rationale: The smell of soft drinks, coffee, food, candy, gum, and mints distracts the rats. Keep soda/water bottles in your bag and don’t sip during class.

Cell phones should be turned off before entering the lab. The ringing sound disturbs and may startle the rats.

No paperwork such as Research Summaries, Class Presentation handout, or Experimental Reports will be accepted as submitted to the instructor via email. An exception is that the PowerPoint presentation for class presentations and the one-page summary of the presentation should be submitted to the instructor by email for approval at least one day prior to the presentation.

Any form of Plagiarism (using other people’s material as if it were yours) in reports or cheating during exams will result a final grade of F and a formal letter submitted to the Dean. Plagiarism includes copying text from WebPages, articles you find in the library or on the internet, books, magazines, and newspapers, etc. and inserting such copied text into your report. The reports you write bear your name as the author, and the reader therefore expects that you have written all of the contents. Short quotations (a line or two) of already printed text is allowed for occasional use (one, two or three times in one report), and must be used according to the guidelines in the APA manual (the author, the year of publication, and the page number must be stated near the quotation, and the reference to the publication the quotation comes from must appear in the reference list in your report). Notice that plagiarism also includes copying text from the instructor’s handouts and inserting such copied text into the reports that have you as the author.

AMERICANS WITH DISABILITIES ACT (ADA) POLICY. Students with disabilities who seek reasonable accommodations in the classroom or other aspects of performing their coursework must first register with the UNF Disability Resource Center (DRC) located in Building 10, Room 1201. DRC staff members work with students to obtain required documentation of disability and to identify appropriate accommodations as required by applicable disability laws including the Americans with Disabilities Act (ADA). After receiving all necessary documentation, the DRC staff determines whether a student qualifies for services with the DRC and if so, the accommodations the student will be provided. DRC staff then prepares a letter for the student to provide faculty advising them of approved accommodations. For further information, contact the DRC by phone (904) 620-2769, email (kwebb@unf.edu), or visit the DRC website (http://www.unf.edu/dept/disabled-services).
### January

**4 Mon**  
Syllabus and Introduction  
Discussion about Library Use

**6 Wed**  
Psychology and the Reflex  
Learning and Behavior  
Chaps 1 + 2

**11 Mon**  
Discuss Library Assignment  
Library Assignment Due  
Learning and Behavior  
Chaps 1 + 2

**13 Wed**  
Learning and Behavior  
Basic Graph Skills and Research Designs  
Research Summary 1 due  
Chaps 1+ 2

**18 Mon**  
*Holiday*

**20 Wed**  
Operant Conditioning  
Chap 5

**25 Mon**  
Operant Conditioning

**27 Wed**  
Operant Conditioning  
Research Summary 2 due  
Supplemental Reading I

### February

**1 Mon**  
Operant Conditioning

**3 Wed**  
Operant Conditioning  
Research Summary 3 due

**8 Mon**  
**EXAM 1: Chaps 1, 2, 5 and Supplemental Reading I**

**10 Wed**  
Report writing, APA style

**15 Mon**  
Report Writing  
Research Summary 4 due

**17 Wed**  
Stimulus Control  
Report 1 Due  
Chap 10

**22 Mon**  
Stimulus Control

**24 Wed**  
Stimulus Control
<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
<th>Supplemental Reading</th>
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<tbody>
<tr>
<td>March</td>
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<tr>
<td>1</td>
<td>Mon</td>
<td>Stimulus Control</td>
<td>Supplemental Reading II</td>
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<tr>
<td>3</td>
<td>Wed</td>
<td>Schedules of Reinforcement</td>
<td>Chap 6</td>
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<tr>
<td>8</td>
<td>Mon</td>
<td>Schedules of Reinforcement</td>
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<td>10</td>
<td>Wed</td>
<td>Schedules of Reinforcement</td>
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<td><strong>Report 2 Due</strong></td>
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<tr>
<td>15</td>
<td>Mon</td>
<td>Spring Break</td>
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<tr>
<td>17</td>
<td>Wed</td>
<td>Spring Break</td>
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<tr>
<td>22</td>
<td>Mon</td>
<td>Schedules of Reinforcement, Start Experiment 3</td>
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<tr>
<td>24</td>
<td>Wed</td>
<td><strong>Exam 2: Chaps 6 and 10 and Supplemental Reading II</strong></td>
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<tr>
<td>29</td>
<td>Mon</td>
<td>Differential Reinforcement</td>
<td>Supplemental Reading III</td>
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<tr>
<td>31</td>
<td>Wed</td>
<td>Punishment</td>
<td>Chap 7</td>
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<td>April</td>
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<tr>
<td>5</td>
<td>Mon</td>
<td>Punishment</td>
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<tr>
<td>7</td>
<td>Wed</td>
<td>Operant Application</td>
<td>Chap 8</td>
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<td>12</td>
<td>Mon</td>
<td>Operant Application</td>
<td>Supplemental Reading IV</td>
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<tr>
<td>14</td>
<td>Wed</td>
<td>Operant Application</td>
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<tr>
<td>19</td>
<td>Mon</td>
<td>Operant Application</td>
<td></td>
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<tr>
<td>21</td>
<td>Wed</td>
<td>Summing up</td>
<td><strong>Report 3 Due</strong></td>
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</tbody>
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*Exam Week*

*Exam 3: Chaps 7 and 8 and Supplemental Readings III and IV.*

(Date and time according to UNF Schedule)