REHB 509B
Behavior Analysis Research Designs: Group Experimental Designs
Fall 2015

COURSE SYLLABUS

Course Title: Behavior Analysis Research Designs: Group Experimental Designs
Course Number: REHB 509B
Credit Hours: 3
Location & Dates: Trinity Services
Fri: 6:00 pm – 9:00 pm
Sat: 9:00 am – 4:00 pm
Weekend 1: 9/5-6
Weekend 2: 10/10-10/11
Weekend 3: 11/14-11/15
Online Chats: Every Thursday 6:30 PM-7:30 PM

Instructor: John Pingo, Ph.D., BCBA
Phone: 815-985-8465 (cell)/815-624-8431 (office)
Email: drjohnpingo@gmail.com
Virtual Office Hours: meetings by appointment

TA: N/A

Course Description and Goals:

The purpose of this course is to provide a foundation in applied research methods pertinent to program evaluation, group experimental design, and related data analysis. After completing the course you should be able to do the following:

a) Be a knowledgeable consumer of group design and the related statistical analysis literature (i.e., understand and critically evaluate research in journal articles and other research presentations).

b) Have intermediate level skills for generating group design studies, knowing which data analysis techniques are appropriate, using computer software for basic statistical analyses, and drawing appropriate conclusions.

Text & Assigned Readings:

Additional readings are also required. These readings, indicated by asterisks in the syllabus, supplement and are equally important to those in the textbooks. You are responsible for all assigned readings on the due date. It is strongly encouraged that you keep up with the reading assignments and complete each reading assignment on the due date shown on the attached calendar.

Class Sessions:

Class attendance is expected at all times. This class will be presented as both lecture and seminar. Class participation is expected and thus will be graded.

Evaluations:

1. Three exams (300 points total): Exams will emphasize the material covered in the assigned readings and lectures presented directly prior to the exam ONLY. Exam 2 will be in a 'take-home' format that will require you to conceptualize the methodology and data analysis for a hypothetical experimental project. Specifically, Exam 2 will require you to complete portions of a hypothetical research project. Exams 1 & 3 will be administered in-class. No make-up exams will be given. Point totals are as follows: Exam 1: 100 pts., Exam 2: 150 pts., Exam 3: 50 pts. Late take-home exams will not be accepted.

2. Four 10-point statistics assignments (40 pts.): These assignments will require you to run statistical analyses on a set of data with which you will be provided. You will also be required to interpret the results of the statistical analyses. Assignments are to be completed using some version of SPSS software. You may have access to a computer with a copy of SPSS already or you may need to download a free trial version from the internet. You will be provided with explicit, task analytic instructions for how to complete each of the analyses using SPSS however, the TA’s written for the assignments may differ slightly from very recent versions of SPSS. Instructions for how to download SPSS and completion of the first assignment will be presented during the second class meeting. Assignment 1: t-test; Assignment 2: One-way ANOVA & post-hoc; Assignment 3: Two-way ANOVA; Assignment 4: correlation coefficient. Late assignments will not be accepted.
3. Brief lecture/discussion (10 pts). You will be responsible for leading the class (in pairs) in a brief discussion of one supplemental assigned article for approximately a 10-minute duration, depending on the length of the article. Your discussion should be of an advanced, scholarly nature and include commentary on the specific methodological strengths and weaknesses of the article. Articles available to choose from are those shown with a “***” on the attached calendar (11 articles total). You will have the opportunity to sign up for one of the articles the first weekend and the actual discussions will begin during the 2nd weekend.

4. Participation (30 pts.) This class will often be conducted as a seminar. You are encouraged to speak in class and participate in small group exercises; indeed your contributions (or lack thereof) will be graded. We will discuss questions that you have about the material and any related issues, as well as the assigned journal articles for the course. With a total of 30 points possible, you have the opportunity to earn around 10 points per weekend of class. Be aware that missing days or whole weekends of class will cause you to forfeit participation points for the class. Also be aware that exams will be given the second 2 Fridays and last Saturday of the class. Make-up exams will not be given except in EXTREME situations and by prior approval from your instructor. PLEASE NOTE: If you need to miss a class period, there is no need to check with your instructor beforehand. The calendar of events and participation point breakdown is enough for you to be able to inform your own decision about missing class time.

Letter grades will be determined as follows:

- **A** = 380 - 341
- **B** = 340 - 303
- **C** = 302 - 265
- **D** = 264 - 227
- **F** = < 226

**Academic Dishonesty**

Each student is responsible for making himself or herself aware of the policies and procedures in the Graduate Catalog (pp. 44-46) that pertain to Acts of Academic Dishonesty. These policies cover such acts as plagiarism, preparing work for another student, cheating by any method or means, falsifying or manufacturing data, furnishing false information to a university official relative to academic matters, and soliciting, aiding, concealing, or attempting conduct in violation of this code.
If you wish to drop this course, you must do so after the date designated by the university. A grade of ‘Incomplete’ will be given under the conditions specified in the university catalog ONLY.

_The instructor is committed to equal opportunity in education for all students, including those with documented disabilities. It is the responsibility of students with documented disabilities to contact the instructor during the first week of class to discuss appropriate accommodations to ensure equity in grading, classroom experiences, and outside assignments. Documentation is to be provided and accommodations are to be arranged with Disability Support Services._
Calender

**readings available for group presentation**

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<tr>
<th>Weekend 1:</th>
<th>Topic</th>
<th>Assigned Readings</th>
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|           | Course Introduction | Christensen Chap. 1 (Intro to Scientific Research)  
Science vs. Pseudoscience; The Scientific Process  
Video: “Facilitated Communication”  
Shermer (1992)  
Kazdin, Ch. 1 (Intro to Methodology/Research Design) |
|           | Variables used in Experimentation | Christensen, Chaps. 4 (Problem ID and hypothesis formation) & 6 (Variables used in experimentation)  
Kazdin Ch. 5 (Selection of research problem and design) |
|           | Drawing Reliable and Valid Inferences | Christensen, Ch. 7 (Reliability and Validity) – pgs. 206-214  
Kazdin Chaps. 2 (Internal/External Validity), 3 (Construct/Statistical Conclusion Validity), & 4 (Sources of Artifact and Bias)  
Kruger et al. (1999) |
|           | Subject Selection/Assignment and True Experimental Group Designs | Kazdin Ch. 6 – **SKIP pg. 169 to 172 on Quasi-Experimental Designs**  
(Experimental Research)  
Kazdin Ch. 7 (Control and Comparison Designs)  
O’Leary & Borkovec (1978)  
**Sturmey (2005)**  
**Chan et al., (2011)** |
|           | Quasi-Experimental Designs | Christensen Ch. 10 (Quasi-Experimental Designs)  
Kazdin Ch. 6 – **pg. 169 to 172 on Quasi-Experimental Designs**  
**Slate & Jones (1989)** |
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<th>Weekend 2:</th>
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| EXAM 1 (100 pts.) | Basics of Inferential Statistics | Huck, Ch. 5 (Foundations of Inferential Statistics) & 6 (Estimation)  
**Aman et al. (2008)**  
**Eikeseth et al., (2002)**  
**Jackson et al., (2011)** |
| | Hypothesis Testing and t tests | Huck Chs. 7 (Hypothesis Testing), 8 (Adding ES, Power, Cl’s, and Bonferroni), & 10 (Inferences Concerning One or Two Means) |
| | One-Way ANOVAs; Post-hoc Analyses | Huck, Chs. 11 (Tests on 3 or More Means Using a One-Way ANOVA) & 12 (Post Hoc and Planned Comparisons)  
**Meier et al., (2009)**  
Huck Ch. 13 (Two-Way Analyses of Variance)  
**Kennel & Agresti (1995)** |
| | Two-Way ANOVAs | |
| | Repeated Measures Factorial Designs & Repeated Measures ANOVAs | Huck Ch. 14 (Analysis of Variance with Repeated Measures) –STOP at pg. 377  
**Navarick (2009)** |
| | Mixed Factorial Designs & Mixed ANOVAs | Huck Ch. 14 - pg. 377-388 |

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<th>Weekend 3:</th>
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| (take home) EXAM 2 and Assignments 1-3 due at the beginning of class | Correlation Coefficients | Huck Chs. 3 (Bivariate Correlation) & 9 (Statistical Inference Concerning Bivariate Correlations)  
**Wilson & Huff (2001)** |
| | Statistical vs. Clinical Significance Factor Analysis | Kazdin Ch. 14 (Assessment and Evaluation of Interventions) & Ch. 20 (Factor Analysis)  
Kazdin Ch. 15 - pg. 459-470  
Jacobsen et al. (1984)  
Prentice & Miller (1992)  
Gonzalez (1994)  
Ator (1999) |
EXAM 3 & Assignment 4 completed and due by the end of class

Supplemental Readings


