EXPERIMENTAL METHODS & LAB  
Spring 2007

PSYC 390       MWF 11:50-1:05       Room 316 Olds-Upton, Lecture
PSYC 391-1     Thurs 12:30-1:50   Room 316 Olds-Upton, Lab
PSYC 391-2     Thurs  2:40-4:00    Room 316 Olds-Upton, Lab

Class List-serve: psyc390-1@kzoo.edu

Professor: Dr. Robert Batsell  
E-mail: rbatsell@kzoo.edu
Office: #403 B Olds-Upton  
Office Hours: MWF 11:00-11:50 a.m.
Telephone: Office 337-7032  
(or in case of emergency > 388-3378)

Teaching/Lab Assistants:

LAB 391-1  12:30 to 1:50 p.m.
Amy Fry
Phone Number:
E-mail:

LAB 391-2  2:40 to 4:00 p.m.
Drew Sturgeon
Phone Number:
E-mail:

Required Texts:


Bookstore has the latest edition of the Kirkpatrick 7& Feeney text
GOALS OF THE COURSE

The goal of this class is to give you the skills to conduct independent research in psychology. Experimental methods are the backbone of experimental psychology. Before one can do work in any area of psychology, one must first know how a psychologist plans, conducts, analyzes, interprets and then reports a given experiment. The purpose of this class is to take you through these steps so that when this quarter is over, you can plan an experiment, conduct the experiment, choose the appropriate statistical technique for analysis, interpret the results, and present this information in a coherent written format.

I. COMPONENTS OF THE COURSE: There will be a total of 575 points in this class, divided between quizzes, tests, and written projects. Grading will be along the 10% scale.

A. LOGIC OF EXPERIMENTAL DESIGN AND RESEARCH PROCEDURES:
The first component of the class is the understanding of the proper techniques for conducting empirical research. A well-trained scientist does not test hypotheses without carefully considering all possibilities and designing an experiment that can eliminate spurious conclusions. Throughout the semester, lectures will center on the procedures and topics that need to be considered when designing a "good" experiment. The students' understanding of this information will be measured by two tests. The midterm exam is worth 50 points and the cumulative final exam is worth 100 points. The test format for both tests will be the same, including multiple choice, fill-in-the-blank, and/or short essay questions. Together, the two tests will account for 150 points of the final grade.

B. STATISTICAL PROCEDURES:
A second aspect of experimental psychology is mastery of the statistical procedures used by psychologists. In this class, you will have the opportunity to learn the logic and the application of a variety of statistical techniques. However, it is my aim to make this learning process as painless as possible. As a result, all procedures will be thoroughly explained with handouts and examples in class before the students are required to do the statistics. Finally, we will spend two lab periods learning how to use a common statistical software program (SPSS). Three quizzes will be given throughout the quarter, and each quiz is worth 25 points each (75 points total). Quizzes will only cover mathematical procedures, and students can use materials that are necessary to complete the equations (i.e., books, notes, and calculators).

C. SYNTHESIS OF EXPERIMENTAL DESIGN AND STATISTICAL PROCEDURE:
The final piece of the experimental psychology puzzle is a union of the logic of experimental design with the precision of statistical techniques in a well-written report of the experiment. The research paper serves two roles: 1) to inform the reader in a concise manner exactly how the experiment was performed; and 2) to explain the obtained results and their relation to our understanding of the investigated topic. Each paper will be graded for both content and style. Every student is required to turn in a paper. If a
student does not turn in a representation of their written work they will not pass this course. PAPERS ARE DUE AT THE BEGINNING OF CLASS ON THE DESIGNATED DUE DATE. PAPER GRADES WILL BE DEDUCTED BY 10% EACH DAY THEY ARE LATE.

The first paper will include an extensive literature review and a proposed experiment (data will not be collected for Paper #1). Each student will generate an idea for an experiment and collect background literature on that subject. This paper will be worth 100 points, and students will be allowed to rewrite that paper to improve their score.

Student's knowledge will be assessed through a final written project and a poster presentation. Groups of four students in the class will decide upon a feasible experiment. Next, each group will conduct an experiment and collect the data. Then, each student within the group will be given the data set for analysis. Then, the entire experiment, including background information, method of experimentation, statistical procedures/results, and conclusions of the experiment, will be included in the written report. Each student is responsible for turning in a final paper. Paper #2 will be worth 125 points.

Poster presentation. In addition, to gain experience in presenting the results of an experiment, each group will present a poster that summarizes the results of their experiment. This poster presentation will occur on the last scheduled day of the class, and the poster presentation is worth 25 points. If possible, independent faculty members may be used to judge the quality of the poster presentations.

*Written Homework Assignments: Throughout the course, various writing assignments will be given to facilitate practice of relevant skills for this course. Six written assignments are listed on the syllabus. These written assignments are worth a total of 75 points.

III. ACCOMMODATIONS.

A. Student Athletes. Student athletes who have university permission to miss classes or tests need to inform the instructor before they miss the assignment.

B. Cultural/Religious Holidays. Kalamazoo College provides reasonable accommodations for observing religious or cultural holidays (such as Yom Kippur, Martin Luther King Day, Easter, Cinco de Mayo). Students can be excused from class to participate in these religious/cultural activities, but they will be responsible for getting all assignments and turning in course work. It is the student's responsibility to contact the faculty member in a timely manner to arrange for appropriate accommodations.

C. Students with Disabilities. Kalamazoo College provides reasonable accommodations for students with disabilities. It is the student's responsibility to contact the office of the Dean of Students [337-7209] in a timely manner to arrange for appropriate accommodations.
IV. CLASS RULES.

A. Honor System. This course will operate in accordance with the Kalamazoo College Honor System: a responsibility for personal behavior, independent thought, respect for others, and environmental responsibility. Students who are caught cheating or plagiarizing will receive a zero for that assignment, will be referred to Student Services, and may fail the class. Students who download papers or any information from the Internet without citing the source may receive an F in this course.

B. Attendance. Attendance will not be taken in this class; but students are expected to attend the scheduled classes.

C. Classroom Behavior. Students are expected to treat all members of this class with respect. Shouting and harassment have no role in a college classroom where students can voice their opinion free of the ridicule of others. These rules also apply when students are engaged in discussion in small break-out groups.

D. Make-up Policy. If you know that you are going to miss an assignment (test or paper) for any reason, it is the responsibility of the student to contact the professor BEFORE the assignment is due. Makeup assignments may not be given if prior warning (and the professor’s consent) has not occurred.

V. DAY OF GRACIOUS LIVING: Please note that if the Day of Gracious Living occurs on a day that an assignment is due, that assignment will be due at the beginning of the next class meeting.
Experimental Psychology Lecture Outline

**WEEK #1:**
- **Mon 3/26**
  - Introduction to the Class
- **Wed 3/28**
  - Introduction to the Class
- **LAB 3/29 [LAB]**
  - Use of Library Materials
- **Fri 3/30**
  - Introduction to the Class
  - Assignment: PARAPHRASING PARAGRAPH (15 pts)

**WEEK #2:**
- **Mon 4/02**
  - CRITICAL THINKING
    - Reading: GOODWIN Ch. 1
- **Wed 4/04**
  - HYPOTHESIS FORMATION
    - Reading: GOODWIN Ch. 3
    - Assignment: SIP REFERENCES DUE (20 pts)
- **Lab 4/05**
  - Statistics: INTRODUCTION TO X2 & Statistical Significance
- **Fri 4/06**
  - OPERATIONAL DEFINITIONS/Steps of a Good Experiment
    - Reading Assignment: GOODWIN Ch. 5

**WEEK #3:**
- **Mon 4/09**
  - EXPERIMENTAL DESIGN
    - Reading Assignment: GOODWIN Ch. 5
    - Assignment: SIP Title and Abstract (15 pts)
- **Wed 4/11**
  - EXPERIMENTAL DESIGN
- **Lab 4/12**
  - Statistics: Pearson r & Spearman Rank Order Correlation
    - Reading: GOODWIN Ch. 9
- **Fri 4/13**
  - EXPERIMENTAL DESIGN
- **SUN 4/15**
  - VanLiere Symposium
| WEEK #4:       | Mon 4/16   | Batsell’s Commandments to APA Style//Paper Writing  |
|               |           | Reading: APA Publication Manual                   |
|               | Wed 4/18  | Batsell’s Commandments to APA Style//Paper Writing|
|               |           | Reading: APA Publication Manual Ch. 2             |
| Lab 4/19      | STAT QUIZ #1 (Chi Square and Correlation) (25 Points) |
| Fri 4/20      | Scales of Measurement                              |
|               |           | Reading: GOODWIN Ch. 4                            |

| WEEK #5:       | Mon 4/23  | Writing Workshop on Paper #1                      |
|               | Wed 4/25  | Hypothesis Testing                                |
|               |           | PAPER #1 DUE HERE [100 Points]                    |
| Lab 4/26      | Statistics: t-test                                |
| Fri 4/27      | Work on Project 2                                 |

| WEEK #6:       | Mon 4/30  | TEST #1 (50 Points)                               |
|               | Wed 5/02  | Questionnaires                                    |
|               |           | Reading: GOODWIN Ch. 12                           |
| Lab 5/03      | One-Way Analysis of Variance                      |
| Fri 5/04      | Factorial Designs                                 |

<p>| WEEK #7:       | Mon 5/07  | Factorial Designs Continued                       |
|               |           | Assignment: PROJECT #2 PROPOSAL (15 pts)          |
|               | Wed 5/09  | STATS QUIZ #2 [t-tests &amp; one-way ANOVA] (25 Pts)   |
| Lab 5/10      | Ethics in Research: In-Class Exercise (15 Pts)    |
|               |           | Reading: GOODWIN Ch. 2                            |
| Fri 5/11      | Within-Subject Designs                            |</p>
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<td>Mon 5/14</td>
<td>Within-Subject Designs Continued</td>
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<td>Wed 5/16</td>
<td>Quasi-Experimental Designs</td>
<td>Reading Assignment: GOODWIN Ch. 10</td>
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<td>Lab 5/17</td>
<td>SPSS Lab Session #1</td>
<td>Reading: Kirkpatrick &amp; Feeney</td>
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<td>Fri 5/18</td>
<td>WRITING RESULTS SECTIONS</td>
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<td>#9</td>
<td>Mon 5/21</td>
<td>Single-Subject Designs/Case Studies</td>
<td>Assignment: Results Writing (20 Points)</td>
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<td>Reading: GOODWIN Ch. 11</td>
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<td>Wed 5/23</td>
<td>Nonreactive Measures</td>
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<td>Lab 5/24</td>
<td>SPSS Lab Session #2 &amp; Discussion of Project #2 Stats</td>
<td>Reading: Kirkpatrick &amp; Feeney</td>
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<td>Fri 5/25</td>
<td>STATS QUIZ #3 [ANOVAs] (25 Points)</td>
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<td>Mon 5/28</td>
<td>MEMORIAL DAY: NO CLASS</td>
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<td>Wed 5/30</td>
<td>PROJECT #2 DUE (125 Points)/Guidelines for Effective Poster Presentations</td>
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<td>Lab 5/31</td>
<td>S.I.P. Contracts</td>
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<td>Fri 6/01</td>
<td>Class Research Conference (25 Points)</td>
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<td>FINALS WEEK:</td>
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<td>Wed 6/06</td>
<td>CUMULATIVE FINAL EXAM (100 Points)</td>
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SUMMARY OF WRITTEN ASSIGNMENTS

WRITTEN ASSIGNMENT #1
Paraphrasing assignment Due: Friday, March 30
You will need to read the “Paraphrasing Assignment” page. Then, using your own words, write a full paragraph that describes the main ideas in the passage. The goal of this assignment is to capture the main ideas of the original source, but with your own voice. Your paragraph must be typed and double-spaced.

WRITTEN ASSIGNMENT #2
References assignment Due: Wednesday, April 4
You need to find five or more references related to the topic of your choice. Ideally, these references would be a start toward your first written assignment (or your S.I.P.), but you are not locked into a topic at this point. The majority of your references should be books, academic journals, or licensed Web Sites; you may only have one “Free Web” reference and no magazine articles. Your reference sheet needs to be typed, double-spaced, and according to the APA guidelines for the specific type of reference (see APA Publications Manual, pages 215-282).

WRITTEN ASSIGNMENT #3
S.I.P. Title and Abstract assignment Due: Monday, April 9
The assigned S.I.P.s have been placed as PDFs on the class webpage. You need to read the SIP that you chose on the first day of class. For your assignment, you need to construct an appropriate title and abstract for each S.I.P. Please note that titles rarely contain more than 10 words and abstracts should be approximately 150 words. Information on Title and Abstract construction is provided in Chapter 1 of the APA Publications Manual.

WRITTEN ASSIGNMENT #4
Project #2 Proposal Due: Monday, May 7
On May 4th, you need to organize yourselves into groups of 2 to 4 members, from students within that lab. Use this time to brainstorm about potential ideas for your experiment. Please design a study in which all group members can play a role. Next, remember that the first step to a good research project starts in the library. A quick check of the background literature can prevent a lot of headaches down the road.
Your assignment for next Monday is to turn in a one-page summary of your proposal for Project #2. Each group only needs to turn in one summary with the names of all group members on that sheet. This proposal should include some references that are relevant to your topic, a brief methods section, and a description of how you will collect and analyze the data. This report is worth 10 points for each member of the group. Final Note: Although the group will collaborate on the group poster presentation, the final papers need to be written alone on with one other partner.
WRITTEN ASSIGNMENT #5
Ethics in Research Due: In-Class, May 10
In this assignment, your group needs to complete a Human Participants Review Board Form for your proposed research project. The purpose of this assignment is to familiarize you with the ethical standards of research in psychology.

WRITTEN ASSIGNMENT #6
Writing Results Sections Due: Monday, May 21