

Eastern Kentucky University  
 Department of Psychology  
 Syllabus for Psychology 309, Statistical-Experimental I  
 (CRN = 14547 lecture, 14548 lab, 14550 lab)  
 4 Credit Hours

Instructor: Dr. Jonathan Gore  
 Office: 116 Cammack Building  
 Office Hours: MWF 9-10, TR 9-9:30 (or by appt.)

Email: Jonathan.Gore@eku.edu  
 Phone: 859-622-1115  
 Web: <http://people.eku.edu/gorej/>

**Catalogue Course Description:** Introduction to techniques and problems of the experimental method and statistical analysis in psychology. Representative experiments and data analysis will be discussed. Credit will not be awarded to students who have credit for HEA 450 or PSY 291.

Prerequisites MAT 105 or 106 with a grade of "C" or better or any MAT course above 106, PSY 200 and 250 or departmental approval.

### **Texts**

1. Mitchell, M. L & Jolley, J. M. (2009). *Research Design Explained (7th ed)*. Belmont, CA: Wadsworth. (abbreviated as "M&J" on course schedule)
2. Gravetter, F. J. & Wallnau, L. B. (2009). *Statistics for the Behavioral Sciences (8th ed)*. Belmont, CA: Wadsworth (abbreviated as "G&W")

Note: Both books are used again in PSY 310 & 401

3. Optional Text (Recommended for Psychology Majors headed for Graduate School)  
*American Psychological Association Publication Manual (5<sup>th</sup> ed).*

The books should be available in the ECU Bookstore, and some used copies should still be available. Refer to the Course Schedule for which chapter is assigned for each day. In addition, you will be asked to read and summarize *three* research articles. Details will be given soon.

### **Student Learning Objectives**

EKU's Quality Enhancement Program Statement is, "EKU will develop informed, critical and creative thinkers who can communicate effectively."

At the end of this course you should be able to:

- A. Understand the scientific method as applied to psychology, including basic research design and the ethical principles that guide psychological research.  
How this objective is evaluated: Exams, lab assignments, research paper.
- B. Understand basic measurement principles, descriptive statistics, and data organization. How this objective is evaluated: Exams, lab assignments, research paper.
- C. Be able to read, summarize and evaluate psychological research.  
How this objective is evaluated: Lab assignments, research paper.
- D. Be able to collect, analyze, summarize and effectively present scientific data.  
How this objective is evaluated: Lab assignments, research paper.
- E. Be able to write scientific reports in the style required for the discipline (APA format). How this objective is evaluated: Research paper.

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### Evaluation Methods

Your grades will be based on 20 assignments (5 points each), 5 exams (25 points each), a final exam (50 points), and a research paper (50 points). The total points in this course are 325. There will also be extra credit opportunities (up to 20 points total). Keep track of how much you earn as we progress through the course. Your grade will be based on the straight scale of percentages below (there will be no curves).

100-90 = A

89-80 = B

79-70 = C

69-60 = D

59-0 = F

Psychology majors must earn a C (70%) or higher in order to pass any psychology course. (Non-psychology majors should consult their catalog or advisor for grade requirements.)

All students must earn  $\geq 70\%$  in THREE COMPONENTS of the course: Unit Exams, Lab Assignments, and the Final Paper/Exam. Earning less than 70% in any one component will result in a failing grade for the course, regardless of your scores on the other components. You will have extra credit opportunities if your work in the class does not reach the cut-off point.

Unit Exams (38%) + Lab Assignments (31%) + Final Paper & Exam (31%) = 100%

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### Student Progress

I will keep an updated record of your grade after each assignment and exam and you may ask to see your grade at any point in the semester. I will not be able to inform anyone but you of your grade on any assignment or in the course.

I will update each person of their current course grade after each exam. You will also receive an update on your course grade prior to the final exam (during "dead week").

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### Attendance Policy

Your attendance in both lecture and lab is required in order to fully understand the course material. We will do many hands-on exercises that will enhance your understanding of the textbook material. Thus, there will be several measures to ensure you are attending.

**Lecture:** There will be five exams in this course, each worth 25 points. If you have to make-up an exam for whatever reason, you must do so before the next class period or you will receive a ZERO (only excuses with written documentation are accepted). Only excused absences (with documentation) will be allowed for make-ups.

**Lab:** It is very important that you attend lab as well. It is very difficult to grasp some of the material if you were not present to receive introductory material. Therefore, everyone will start with 10 extra credit points, and you will receive a 5-point deduction for EACH LAB YOU ARE ABSENT (regardless of the reason).

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### Add/Drop and Withdrawal Deadlines

The last day to Add or Drop this course is **Sunday, August 30**.

The last day to withdraw from this course is **Friday, October 30**.

Please inform me if you plan to either drop or withdraw from the course.

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***Disability Statement***

If you are registered with the Office of Services for Individuals with Disabilities, please obtain your accommodation letters from the OSID and present them to the course instructor to discuss any academic accommodations you need. If you believe you need accommodation and are not registered with the OSID, please contact the Office in Student Services Building Room 361 by e-mail at [disserv@eku.edu](mailto:disserv@eku.edu) or by telephone at (859) 622-2933 V/TDD. Upon individual request, this syllabus can be made available in an alternative format.

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***Academic Integrity Statement***

Students are advised that ECU's Academic Integrity policy will strictly be enforced in this course. The Academic Integrity policy is available at [www.academicintegrity.eku.edu](http://www.academicintegrity.eku.edu). Questions regarding the policy may be directed to the Office of Academic Integrity.

Students found guilty of an academic honesty violation will receive a 0 on the assignment in question. Violations could also result in a 0 in the course and/or a referral to the Academic Council.

Academic dishonesty includes plagiarism, cheating, and co-responsibility (i.e., "anyone who knowingly assists in any form of academic dishonesty shall be considered as guilty as the student who accepts such assistance").

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***Official E-mail***

An official ECU e-mail is established for each registered student, each faculty member, and each staff member. All university communications sent via e-mail will be sent to this ECU e-mail address.

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***Standards for Written Assignments***

Students in all psychology courses are expected to use correct grammar, spelling and composition in written assignments. These elements of writing will be taken into consideration in grading all out-of-class writing assignments. If you would like free help with your writing, you may use the writing lab: Case Annex 173 (622-6191).

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## COURSE REQUIREMENTS

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### ***Unit Exams and Final Exam***

There will be five unit exams administered during the lecture part of the course. The exams will have 25 questions, consisting of 20 multiple choice and 5 short answer questions; each question is worth 1 point. They will cover the material covered in the book and discussed in lecture during that week. *Students must make-up a missed exam by the next class period or they will receive a 0.* The final exam will be worth 50 points and will cover all material on the study guide. The final exam will consist of 35 multiple choice and 15 short answer questions.

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### ***Lab Assignments***

The purpose of these assignments is to make sure that you are staying on track regarding conducting and writing your own research. Each assignment is worth 5 points. Examples include explaining the materials and procedures of your project, and getting some practice analyzing data in SPSS. You should expect to have some homework assigned to you **every class**, which will be due at the next class period. You are responsible for making up late assignments, but these will only be accepted up until a noted deadline (see course schedule below for more details). I strongly recommend that you avoid falling behind on these.

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### ***Paper***

Throughout this course we will focus on writing a research paper. The paper will follow APA guidelines, and will be based on the research project you conducted in this course. Although there are no limits as to how long or short a research paper can be, you should be prepared to write a 10-15 page paper (including the references, tables, figures, title page, and abstract). You will be asked to write and revise drafts of each section of this paper. You will not write a perfect paper the first time. If you turn in the original draft of your paper, you run the risk of getting a poor grade. Remember that we will work on this paper throughout the length of this course, so there is no reason why you can't produce a paper of good quality. *The final paper will be worth 50 points, and is due at 5 p.m. on December 4.* Late papers will receive a 5-point deduction for EACH DAY it is turned in late.

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### ***Outside Credits for Psychology Department***

As a student in this course you are required to earn 5.0 units in outside activities. Completion of the course requires earning all 5 units. Those students failing to earn the minimum three units will have their final course grade lowered by one letter grade. To fulfill outside credits for this class you will participate in research projects. If you participate in a study that lasts more than 1 hour you may receive more than one unit credit for it. Please note carefully on the attached sheet that if you sign up for an study and do not show up for it or cancel at least 24 hours in advance you will be penalized ½ unit credit (This means that you will have to earn an additional ½ credit). If you do not or cannot participate in enough research studies to fulfill the required 5 hours, you have the option of answering questions about 401 students' research posters, which will be available during the last week of class and finals week (see next page for details). *I encourage you to participate in some research in order to get ideas about your own future research projects.*

**To receive credit for participating in research:** Sign up for studies via the online system (see handout). The researcher will assign you credit in the computer once you participate. You will also be required to type a one-page summary of the project. Research credits vary in amount (from ½ to 2), so make sure that you keep track of how many you have done.

**To receive credit for reading posters and presentations:** Complete the questions on the Poster/Presentation Question Form, and give to the instructor. Each poster or presentation you review is worth ½ a unit credit.

ALL OUTSIDE UNIT CREDITS ARE DUE BY **TUESDAY, DECEMBER 15 AT 10:30 AM**

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## Course Outline

Date	Lecture	Lab	Book Chapters & Deadlines
8/25	Introduction to Research	Narrowing down your interests	M&J Chapters 1,3
8/27	Theory & Hypotheses	Generate hypothesis for project	M&J Chapter 4
9/1	Research Articles	**PSYINFO search for articles**	M&J Chapter 9
9/3	Internal Validity: Concepts & Threats	Internal validity exercise	M&J Chapter 2
9/8	Internal, External & Construct Validity	Exam 1 review session, Catch-up day	<b>ASSIGNMENTS 1-6 DUE</b>
9/10	<b>EXAM 1: Theory &amp; Validity</b>	Exam 1 answers, Introduction section	M&J Chapter 7
9/15	Descriptive & Correlational Designs	Multiple predictor hypothesis & procedure	M&J Chapter 5
9/17	Measurement: Reliability & Construct Validity	Ethics & IRB	M&J Chapters 6,8
9/22	Measurement: Scales, Survey Measures	Exam 2 review session, Catch-up day	<b>ASSIGNMENTS 7-9 DUE</b>
9/24	<b>EXAM 2: Survey Design &amp; Measurement</b>	Exam 2 answers, Method section	G&W Chapter 1
9/29	Introduction to Statistics	Notation & Order of Operations	G&W Chapter 2, <b>INTRO DUE</b>
10/1	Frequencies & Percentiles	Calculating Frequencies & Percentiles	G&W Chapter 3
10/6	Central Tendency: Mean, Median, Mode	Calculating Central Tendency	
10/8	Central Tendency in Distributions	Exam 3 review session, Catch-up day	<b>SCALES &amp; ASSIGNMENTS 10-12 DUE</b>
10/15	<b>EXAM 3: Frequencies &amp; Central Tendency</b>	Exam 3 answers, Data collection	G&W Chapter 4
10/20	Variability: Range, IQR & Sum of Squares	Calculating Variance, Part 1	
10/22	Variability: Variance & Standard Deviation	Calculating Variance, Part 2	G&W Chapter 5
10/27	Z scores	Calculating Z scores	G&W Chapter 6
10/29	Probability	Area under the Curve	
11/3	**EXCEL: Descriptives, Frequencies & Zscores**	Exam 4 review session, Catch-up day	<b>METHOD &amp; ASSIGNMENTS 13-16 DUE</b>
11/5	<b>EXAM 4: Variability &amp; Probability</b>	Exam 4 answers, Results & Discussion	
11/10	**SPSS: Entry, Descriptives & Reliability**	**Data Set & Reliability Analyses for project**	G&W Chapter 16
11/12	Correlation and Regression Analysis	Calculating correlation coefficients	G&W Chapter 17
11/17	**SPSS: Analyzing Correlational Data**	**Analyses & Table for project**	M&J Chapter 10
11/19	Simple Experiments: Hypo's & Designs	Experimental Design, Finish Analyses	<b>RESULTS &amp; TABLE DUE</b>
11/24	Simple Experiments: Validity Issues (review)	Exam 5 review session, Catch-up day	<b>DISCUSSION &amp; ASSIGNS 17-20 DUE</b>
12/1	<b>EXAM 5: Analysis &amp; Experimental Design</b>	Exam 5 answers, Minor sections	M&J Chapter 14
12/3	APA Style & Writing Issues	Critique Workshop	M&J Chapter 15, <b>REVISED PAPER DUE</b>
12/8	Single-N and Quasi-Experimental Designs	Final Exam Review	
12/10	Final Exam Review	Final Exam Review	

\*\* = meeting in the computer lab

FINAL EXAM TIME: **TUESDAY, DECEMBER 15 FROM 10:30 AM - 12:30 PM**