

Psychology 212
(Section 212A)

Experimental Methods and Data Analysis II

Fall 2015

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Class meets on M/W (8:55 - 11:10 am) in PPHAC 331/Zinzendorf 100

Office hours:

Monday/Wednesday: 8:30-8:50; 11:15-11:40

Other hours available by appointment—please e-mail me to set up an appointment.

Catalog Course Description

Statistical techniques that build on concepts introduced in Psychology 211. Mastering inferential statistics and nonparametric statistical procedures. Students will carry out the research study outlined in their proposals from Psychology 211 and complete an APA-style research paper. This course must be taken in the semester immediately following Psychology 211 and with the same instructor. Prerequisite: Psychology 211 with a grade of C or better. Spring.

Course Overview

This course will further your understanding of how researchers in psychology go about studying the way individuals think, feel, act, etc. In this second course in the two-part series of 211-212, you will be conducting your own research based on the design you created in 211. Our focus will be on learning the pragmatics of conducting research, the formulation of specific hypotheses, the selection and use of more advanced statistical techniques, and on completing a full APA-style report.

Course Objectives

By the end of this course, you should be able to:

1. Understand the Moravian College Human Subjects Policy as it pertains to psychological research such that you are able to write a proposal for approval by the Moravian College Human Subjects Institutional Review Board (HSIRB).
2. Evaluate a study in terms of the potential flaws in its design and suggest appropriate improvements where necessary.
3. Use basic *and advanced* statistical procedures appropriately in conjunction with specific designs, apply such statistical procedures using SPSS (Statistical Package for the Social Sciences), and graph the data using either SPSS or Excel.

4. Research a topic in an area of psychology using various electronic databases, such as PsycINFO, organize your findings into an appropriately formatted reference list, *evaluate sources to determine their appropriateness for inclusion in a review of psychological literature, and make well-informed decisions about what sources are optimal to include based on their credibility and their content.*
5. Plan *AND CARRY OUT* a study, using a design that minimizes flaws and maximizes your ability to obtain data that accurately address your research question.
6. Understand and interpret research findings.
7. Write a research paper following the guidelines set forth by the *American Psychological Association Publication Manual*, further developing of your writing skills, both in general and with respect to scientific writing specifically.
8. Present your research results to others in an appropriate and professional manner.

Required Texts (same as last semester)

[**Note:** Please also be sure to bring a calculator with a square root function to class each day as well. **You may not use your cell phone as a calculator.**]

Davis, S. F., & Smith, R. A. (2005). *An introduction to statistics and research methods: Becoming a psychological detective*. Upper Saddle River, NJ: Pearson. ISBN: 0-13-150511-4

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author. ISBN: 1-4338-0562-6

Additional readings may be added that are not currently on the class schedule. Such readings would be either handed out during class or made available on the class Blackboard site.

Expectations for the Course: Preparation and Commitment—all of the same points from last semester still apply, but here are a few that I believe are appropriate to reiterate.

1. As a prerequisite for upper level courses in psychology and due to its rigor of combining statistics and methodology, you **must** be willing to give preparation for this course a high priority in terms of your time management. Appropriate time management is *particularly critical* to your success in this second semester.
2. Allocate a time and place to study for this course. Your studying will not be successful if done in 10- or 15-minute segments, late at night, or at the last minute. I recommend several study sessions of 1 hr per week (in keeping with research on learning), although what is needed may vary from individual to individual. This time is **in addition** to the time required to complete assignments, homework, independent research work, and group study sessions.
3. You **MUST** read before class or you will not fully comprehend the lectures. Your reading and studying goal should go beyond comprehending—you must eventually be able to speak the language of statistics and research.
4. Remember that one prerequisite for the 211 course was a basic writing course (FYS, WR100, or equivalent). Therefore, I expect you to display *strong* writing in your

assignments and projects. Spelling, grammar, and structure are always relevant, and will therefore be a large component in the grading of assignments and the research project.

5. **USE THE APA MANUAL AND WRITING CENTER AS VALUABLE**

RESOURCES! The Writing Center is located on the 2nd floor of Zinzendorf Hall, where you can sign up for an appointment with a tutor or try your luck at a walk-in appointment. If you are unable to access the Writing Center, you can set up an appointment at an accessible location by calling 610-861-1392. Typically, there are Psychology majors who work at the Writing Center—when I get details on this semester’s hours and tutors, I will share them with you.

6. Commit to the policies, procedures, and spirit of the syllabus. Please consult the relevant parts of the syllabus when necessary before discussing concerns with me.

In the spirit of fairness to ALL students, I must be consistent with the policies laid out in this syllabus. I ask you to be familiar with and respectful of those policies.

COURSE REQUIREMENTS

Attendance and Participation

I expect attendance at **all** regularly scheduled class meetings. Success in this class requires constant attendance—missing even 1 class can put you far behind. Missed classes will lower your grade because lectures will cover some material that may not be covered in the assigned readings, and you will be held responsible for this material. The lectures are intended to supplement the readings. As such, the lectures will typically emphasize the most central aspects of the chapter and/or discuss particularly difficult concepts. The lectures will presuppose familiarity with the reading assignment for that lecture.

Participation, too, matters. I strongly encourage you to ask questions at any time during the class to help clarify points. Discussion of any portion of the class materials is encouraged and welcomed. In addition, I reserve the right to adjust final grades based on the quality of participation, following this rubric:

- + A student who arrives on time and prepared for *every* class, participates frequently, is highly active in all group activities, etc., may receive a boost of 1/3rd letter grade to his/her final course grade.
- No adj. A student who arrives on time and prepared for most classes, answers questions in class sufficiently and occasionally adds his/her own comments or questions, and participates sufficiently in group activities but does not seem especially engaged or provide frequent high-quality contributions, will not receive any adjustment to his/her final course grade. I expect the majority of the class to fall in this category.
- A student who shows up late repeatedly, adds little to discussions or group activities, is poorly prepared, repeatedly fails to follow instructions, etc. may receive a reduction of 1/3rd letter grade to his/her final course grade. A warning note will be given to the student privately prior to the end of the semester.

Excessive absences will be dealt with on an individual basis. If special circumstances arise that will cause you to miss more than one or two classes, you should contact the Learning Services Office. Please make *every* effort to be on time and not to leave early. I will do my best to start and end class promptly. Please do not disrupt the class when you enter or exit.

AVOID cell phones in class!! Research shows that using your cell phone lowers your attention and learning of material in class. Perhaps even worse, it is just as distracting and damaging to your classmates.

Examinations

There will be 3 exams, as noted in the schedule. The first 2 exams are non-cumulative and will be comprised of multiple-choice, definitional, short answer, essay, and/or computational questions. The final exam will have cumulative portions. Portions of exams *may* be open book.

I *dislike* giving makeups. Thus, I expect your attendance on exam days. If unavoidable circumstances (legitimate reasons only) force you to miss an exam, please contact me beforehand or as soon as possible **before the next class meeting**. My goal is to give exams back at the next class period, so makeups should occur quickly. It is possible that I will choose to count your cumulative final twice to make up for a missed exam due to a valid excuse. You may not use the final to replace a missed exam if you skipped an exam without legitimate reason.

HW & Out-of-Class Assignments

There will be some in-class and some take-home assignments due over the term. All take-home assignments—except for calculations—should be typed, proofread for clarity and grammar, spell-checked, etc. Unless otherwise noted, all take-home assignments will be due at the start of class. Late assignments will not be accepted (there are no exceptions to this rule—please don't ask). If you miss an in-class assignment due to an unexcused absence, you cannot make it up. Excused absences will be considered on a case-by-case basis.

Assignments will be announced in class on a day-by-day basis. Assignments will include statistical computation problems, both in-class and out-of-class SPSS laboratories, and short writing assignments. *You can drop your lowest homework grade (missing one means it is dropped).*

The Research Project/APA Paper

You will be working throughout the semester on various aspects of the project you began designing last term. This project has multiple components that will build on each other, culminating in a final APA-style research paper, with at least 8 references, written in APA style. Ungraded portions (methods/results draft) must be turned in on time or a reduction will be applied to the graded portion of the proposal.

Your research report, which is due toward the conclusion of this semester and must be written in APA style, will have a title page, abstract page, an introduction, Method section, Results section, Discussion, and Reference list (containing *at least 8 empirical journal article references*).

[Relevant information on APA style and these paper components is available in the *Publication Manual*, in the text, and on Blackboard.

Late Policy for Course Work

Late homework assignments and ungraded portions of the project will *not* be accepted. There are no exceptions to this rule. Late papers (i.e., graded portions of the project or the project itself) will be accepted for no more than three days after the due date. The penalty for a late paper is 1 complete letter grade reduction for each day a paper is late (the first drop in a grade occurs once I collect the assignment, usually at the start of class). After the three days are over, a grade of

“0” will be given for the missed assignments. No exceptions will be made to this rule, even in the case of legitimate and documented excuses, technical difficulties (e.g., computer or car), weather issues, and personal problems. *You should be working on your project on an ongoing basis so that you will always have something to submit.* You may *not* e-mail an assignment to me unless we discuss it and I inform you that I will accept it. I want hard copies of all work to be submitted by you in class. For example, I will not accept an assignment that is e-mailed to me while the class is meeting.

Plagiarism and Cheating

The Moravian College faculty has become increasingly concerned by the problem of plagiarism on campus. The Psychology Department's policy on this subject is important for students to understand. Simply put, plagiarism is the intentional misrepresentation of someone else's work as your own. This includes such diverse situations as quoting directly from a published work without giving the author credit, having your roommate write the paper, “borrowing” from fraternity or sorority files, buying a paper from a professional service, and so on. The policy of the department is that the student must keep all note cards and rough drafts on a paper until the grade is assigned. The instructor may request these materials, along with the source materials, at any time. Evidence of plagiarism will be dealt with in accordance with the College policy on academic honesty, copies of which are available at the departmental secretary's desk.

Please visit: <http://www.moravian.edu/studentlife/handbook/academic/academic2.html> to view the policy.

Disability Issues

Students who wish to request accommodations in this class for a disability should contact Ms. Elaine Mara, Assistant Director of Academic & Disability Support at the lower level of Monocacy Hall, or by calling 610-861-1401. Accommodations cannot be provided until authorization is received from the Academic Support Center.

Help with Course Material

Doing well in this course is not difficult if you are diligent, organized, and if you spend a reasonable amount of time outside of class reading, doing homework, etc. I am happy to discuss the course material with you, but you must seek me out during my office hours or schedule an appointment. It is your responsibility to let me know if you are having difficulty with the material. As much as I would like to, I cannot read your mind—you must ask for help or let me know how I can help you. *Don't wait.*

Grading: Final grades will be weighted as follows:

Exams:

In-Class Exams (2 x 15% each)	30%
Cumulative Final	15%

APA Paper:

Method revision	10%
Results Draft	5%
Research presentation	5%
THE Research Report	25%

Other:

HW & Lab Assignments	10%
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Note: Failure to turn in any of the above assignments on time will result in a grade deduction.

I will use the following grading scale for course work:

<i>Letter</i>	<i>Score</i>	<i>Grade Range</i>
A	100	95-100
A-	92	90-94
B+	88	87-89
B	85	83-86
B-	81	80-82
C+	78	77-79
C	75	73-76
C-	71	70-72
D+	68	67-69
D	65	63-66
D-	61	60-62
F	0	0-59

Quick notes

- As I did last semester, I will provide lecture notes via Blackboard.
- Once again, you should have a calculator with a square root button. Calculators that allow you to save new equations or that automatically calculate the statistical tests we will be learning are not permitted during exams and will result in an exam grade of 0, unless approved by me.
- I will announce ahead of time any changes from the syllabus to readings, assignments, or projects. I may occasionally make minor changes in topic without announcement.
- I am happy to meet with you if you have any questions or concerns. Don't let things snowball—that will be **especially** dangerous this semester, with the APA project running concurrently with learning new forms of statistics. If you are having trouble, come and see me as soon as possible!
- **Extra credit** opportunities *should* be available throughout the semester. Credit for experiment participation: 3 pts for each ½ hr of extra credit, with a 2 hr (12 pt) maximum.

COURSE SCHEDULE

EXPERIMENTAL METHODS & DATA ANALYSIS II

Fall 2015

We will cover the course material according to the schedule below. You are responsible for all material presented in class (we will cover non-text material on many days) and in the text (regardless of whether we cover it in class). In this course, we will focus on psychology research—the scientific study of human behavior—and statistics and those two topics combine and intersect. Readings should be completed before class on the dates noted herein. I reserve the right to alter the syllabus should the need arise.

WEEK/DATE	TOPICS	READINGS/Assignments
(1) M 8/31	Course Organizational Meeting HSIRB review/start	HSIRB Web site: http://home.moravian.edu/public/hsirb/
(1) W 9/2	Individual project meetings	Your proposal with my notes
(2) M 9/7	Standard error, Confidence intervals, Probability (some review)	Ch 6 (137-148); Ch 9 (194-200)
(2) W 9/9	Probability/Hypothesis testing: 1 sample t test	Ch 9 (200-210) Revised Method section due
(3) M 9/14	Correlation, regression, prediction	Ch 8 HW
(3) W 9/16	Correlation, regression, prediction continued	Ch 8
(4) M 9/21	Experiments w/ 2 groups (1 IV)	Ch 10 HW
(4) W 9/23	Analyzing 2 group experiments: t test	Ch 11 HSIRB proposal due
(5) M 9/28	2-group experiments continued	Chs 10/11 HW
(5) W 9/30	<i>Exam 1</i>	
(6) M 10/5	Experiments w/ > 2 groups (1 IV)	Ch 12
(6) W 10/7	Analyzing multiple group experiments: 1-way ANOVA	Ch 13 HSIRB revision due
(F 10/9 – Mid-Term)		
(7) M 10/12	Fall Recess	
(7) W 10/14	Work on methodology, stimuli, etc.	Post sign-up sheets for exp.

(8) M 10/19	Multiple-group experiments continued	Chs 12/13 HW
(8) W 10/21	Experiments with multiple IVs	Ch 14
(9) M 10/26	Analyzing experiments w/ multiple IVs: Factorial ANOVA	Ch 15
(9) W 10/28	Multiple-IV experiments continued	Chs 14/15 HW
(10) M 11/2	Experimental/cultural issues	Ch 7
(10) W 11/4	<i>Exam 2</i>	
(11) M 11/9	Inferential test assumptions, transformations	Ch 18
(11) W 11/11	Nonparametric tests, Chi-square Begin data analysis	Ch 18 complete data collection
(12) M 11/16	Internal validity	Chs 5/16 (116-126; 373-382) HW
(12) W 11/18	Internal validity continued	Chs 5/16 (116-126; 373-382)
(13) M 11/23	External validity	Ch 17
(13) W 11/25	Thanksgiving Recess	
(14) M 11/30	Alternative research designs	Ch 16 (383-407)
(14) W 12/2	Nonexperimental research methods	Ch 19 Results section draft
(15) M 12/7	Final paper discussion	Ch 20 (14 on Blackboard)
(15) W 12/9	Research findings presentations (last class)	
W 12/16	FINAL EXAM (1:30)	