

Psychology 212B

Experimental Methods & Data Analysis II

Fall 2009

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Office Hours: Mondays & Wednesdays 3:45-5:15pm; Tuesdays & Thursdays 11:30am-12:15pm *or by appointment* [Please check Blackboard for Updates]

Course Overview:

The second semester of this two semester course introduces inferential statistical techniques that build on concepts introduced in Psychology 211. Students will carry out the research study outlined in their proposals from Psychology 211, analyze their data using SPSS and complete an APA-style research paper. This course must be taken in the semester immediately following Psychology 211 with the same instructor. **Prerequisite:** C or better earned in Psychology 211.

Course Objectives:

Students who successfully complete this course, should be able to:

1. Write a proposal in standard format for approval by the Moravian College Human Subjects Institutional Review Board (HSIRB), including an Informed Consent document;
2. Think critically about all phases of the research process in order to critique their own research and the research of others, as well as to become better consumers of information;
3. Carry out a research study based upon the proposal developed in PS 211;
4. Compute the most common inferential statistical tests and understand the link between research design and statistical analysis;
5. Use SPSS (Statistical Package for the Social Sciences) to summarize and analyze data;
6. Write a report of original research in APA format;
7. Present the results of their study to an audience of their peers.

Required texts:

[**Note:** These are the same texts as those you used in PS 211 last semester. You *must* own all three texts as they will be used for open-book portions of exams and in classroom activities. *Please also be sure to bring a calculator with a square root function to class each day as well.*]

American Psychological Association. (2001). Publication manual of the American Psychological Association (4th Ed.). Washington, DC: APA. [In class schedule as: **APA**]

Heiman, G. W. (2001). Understanding research methods and statistics (2nd Ed.). New York: Houghton Mifflin Company. [In class schedule as: **Heiman**]

Green, S. B., & Salkind, N. J. (2008). Using SPSS for Windows and Macintosh: Analyzing and understanding data (5th Ed.). Upper Saddle River, NJ: Prentice-Hall. [In class schedule as: **SPSS**]

Note: You should bring the Heiman text to class every day. I will announce in advance the days on which you will need your SPSS Manual.

Course Requirements and Grading:

Quizzes (8)	10%
Assignments [including Presentations]	20%
In-Class Exams (2) (15% each)	30%
Final Exam	20%
Research Project	20%

[Extra Credit]

Explanation of Course Requirements and Grading

In Class Quizzes

There will be a total of 8 quizzes (Chapters 12,13,14,15,16,17,18,21) worth a maximum of 12 points each (for a total of 96 points). I will calculate your grade on the basis of 70 points, which is equivalent to a little more than dropping two quizzes. Students who score more than 70 points total may carry over the extra points to be applied as extra credit to test grades. *There will be no opportunity to make up quizzes.* Quizzes will typically be given on the second class meeting after we begin a new chapter (see Class Schedule).

Attendance

You are expected to attend all classes, and will be asked to sign in at the beginning of each class. If you must miss a class, it is still your responsibility to submit any

assignments that are due that day *on that day*. (See policy on late assignments, below). You will also need to get notes and handouts. 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.

Assignments [including Presentations]:

Assignments will be announced on a day-by-day basis. Late assignments will be accepted at a penalty of 2 points per day. Even if you miss the date for receiving a grade, please turn in the assignment when you have completed it. There is no other way for you and me to know if you understand the material! Assignments will include both in-class and out-of-class SPSS laboratories and problems assigned from the end of the chapters in Heiman and other sources. Answers to all odd-numbered problems in Heiman can be found in the back of the book. You should get in the habit of testing yourself by completing these problems even if I do not assign them. There is no way for you to know if you understand the material well enough to test well unless you do the problems.

Your **presentations** will be graded with a focus on clarity of expression, quality of visual aids and your overall understanding of your project components. Details will be distributed well in advance of your scheduled presentation.

In-Class Exams & Final Exam

There will be two **in-class** exams over the course of the semester, as noted in the Class Schedule. In-class exams will be in both closed and open book formats, and will consist of multiple choice, short essays, SPSS analyses and computational problems. The exact format of a particular test will be announced in advance of the test date. In addition to covering the last 3 chapters in the text, the final exam will have a **cumulative** component, which will serve as a makeup for any exam missed during the semester. In that case, the cumulative portion of the final grade will count twice: once as the cumulative score on the final and once as the missed exam grade.

Research Project

Your **project** is the culmination of your work across the past two semesters. Your grade for the project will be based upon three components (for a total of 200 points):

(1) The effort you put into **designing** the best research study you can. This includes such things as controlling for extraneous variables and creating quality measures of variables. You have made a good start at this and have my feedback on your final proposal draft to guide you. I will continue to give you feedback both formally and informally on how you are progressing on this dimension. (50 pts.)

(2) The effort you put into **conducting** the study, including starting early enough to get at least the minimal number of participants needed to test your hypothesis and your work on data coding and analysis. (50 pts.)

(3) The quality of your **final report**, which you can work on across the semester.

Building upon your proposal, you will make final editorial (or, if needed, substantive changes) to your introduction. (See my comments on the final draft of your proposal). Your methods section must be changed to use past tense, and updated as needed to reflect any changes made in project design as a result of my feedback, peer feedback and pilot testing. You will then add a results section (including graphs and tables, as appropriate) in APA format after completing your data collection and analysis. You will then write your discussion, in which you will integrate your findings with the literature on your topic. Finally, you will write an abstract, and check your entire manuscript (including references) for compliance with APA format. You should turn in a draft of your report on the draft due date. If you are unable to turn it in at that time, your first draft it will be considered your final version. Anyone wishing to turn in more than one draft prior to the final due date for the project is welcome to do so. Please see me in advance so that we can set up a workable timeline. (100 pts.)

Extra Credit

Students may earn up to 3 points extra credit by participating in research projects through the department's subject pool. One point may be earned for each ½ hour of participation. In addition, extra points earned on quizzes can be applied as extra credit to exam grades (see above for more detail).

Students Please Note: It is within the instructor's purview to apply qualitative judgment in determining grades in the course. Submitting a draft for review does not in and of itself earn you a higher grade.

Calculating your Grade

To calculate your final grade, I first add any extra credit points earned (e.g. experimental participation credit to a test grade) and then weight each grade according to the percentages given above. For example, if an exam is worth 15% and you score an 80 on it, I multiply (.15) (80) for a point total of 12. Adding these points together for all the grading components listed above will give you your final grade for the course (out of 100 points). These points are then converted to a letter grade as follows:

92.6-100	=	A
89.6 – 92.5	=	A-
86.6– 89.5	=	B+
82.6 – 86.5	=	B
79.6 – 82.5	=	B-
76.6 – 79.5	=	C+
72.6 – 76.5	=	C
69.6 – 72.5	=	C-
66.6 – 69.5	=	D+
62.6 – 66.5	=	D
59.6 – 62.5	=	D-
less than 59.6	=	F

Expectations for the Course

Preparation and Commitment

Since this is a rigorous course for the major in psychology, you must be willing to give preparation for it a high priority. You must 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. We recommend five study sessions of *at least* one hour per week, although what is needed may vary from individual to individual. This time is in addition to the time required to complete assignments, independent research work, and group study sessions. We also recommend that you form study groups and meet on a regular basis in order to review homework problems and to capitalize on different perspectives and examples.

As with PS 211, strong writing should be displayed in your assignments and projects. Spelling, grammar, and structure are always relevant, and will therefore be an important factor in grading of your work. *Use the Writing Center* to develop added confidence in your writing skills!

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

Academic Integrity

Academic integrity is a core value of the college and is expected. Cheating and plagiarism will not be tolerated. It is **my contractual agreement** with the college to report all **suspected** cases of plagiarism and cheating. Plagiarism is the misrepresentation of someone else's work as your own. This includes but is not limited to transcribing sentences or paragraphs belonging to another author directly from another written source giving the impression that they are your own words, quoting directly from a published work without giving the author credit (i.e. proper citation), using or "borrowing" another student's work, or buying a paper from a professional service. The policy of the department is that the student must keep all notes and rough drafts until given a grade for the course. See your Student Handbook for a more complete description. Please see me for any needed clarification.

Other Important Information

Access to Files/Computing Resources

Important documents (including the syllabus), links, announcements, reminders and grades will be posted on **Blackboard**, so please login for this course as soon as possible.

We will continue to work with the data file that we created last term. If you no longer have this file, my copy is saved on the **p drive** in the Psychology folder in the file named “PS212Toedter”. The p drive cannot be accessed from off campus.

Learning Services

Students with learning disabilities who need special accommodations for this course should contact Mr. Joe Kempfer in Learning Services at 1307 Main Street (ext. 1510). Accommodations cannot be provided until authorization is received from Learning Services based upon proper documentation of the conditions and needed accommodations. **Accommodations must be authorized on a class by class basis every term.** (This is required by the ADA and is not just an arbitrary annoyance). I will continue to work with Learning Services to arrange tutoring services for this class. Please see me if you believe you are in need of such assistance.

Students Please Note: The class schedule that follows is subject to change at my discretion in order to make the class flow more smoothly. Except for extreme circumstances (e.g. multiple class cancellations due to severe weather) I will not change the due dates for major assignments.

Class Schedule

[**Note:** Homework review sessions or data analysis sessions that are scheduled outside class time are voluntary. Individual project meetings are *mandatory*.]

<u>Date</u>	<u>Topic</u>	<u>Readings & Major Assignments</u>
(1) Tue 9/1	Overview of Course/Syllabus Organize presentation/meeting schedules	None
(2) Thu 9/3	Introduction to Probability	Heiman, Ch 9, pp.236-42 Heiman, Ch 12
(3) Tue 9/8	Probability (cont.) PowerPoint assistance	Quiz Ch 12
(4) Thu 9/10	Presentations	Work on projects
(5) Tue 9/15	Presentations	Work on projects

<u>Date</u>	<u>Topic</u>	<u>Readings & Major Assignments</u>
(6) Thu 9/17	Individual Project Meetings	Prepare for Meeting Bring most updated HSIRB Packet & drafts of measures
(7) Tue 9/22	Single Sample z test	Heiman, Ch 13 Ch 12 Homework DUE
(8) Thu 9/24	Single Sample z (cont.)	Quiz Ch 13 Final HSIRB packet DUE
(9) Tue 9/29	Single Sample z (cont.) Homework/Problem Review	Ch 13 Homework DUE
(10) Thu 10/1	Exam #1 [Ch 12,13]	Prepare for exam
(11) Tue 10/6	Individual Project Meetings <i>or</i> Workshop Session	Have all materials ready to begin data collection
(12) Thu 10/8	Single Sample t-test	Heiman, Ch 14
<i>Fall Break—Enjoy!!</i>		
(13) Thu 10/15	Single Sample t (cont.)	Quiz Ch 14 Data collection <i>must</i> begin by Monday!
(14) Tue 10/20	t-test for Independent Samples	Ch 14 Homework DUE Heiman, Ch 15
(15) Thu 10/22	t-test for Independent Samples (cont.)	Quiz Ch 15
(16) Tue 10/27	t-test for Dependent Samples	Ch 15 Homework DUE Heiman, Ch 16

<u>Date</u>	<u>Topic</u>	<u>Readings & Major Assignments</u>
(17) Thu 10/29	t-test for Dependent Samples SPSS: t-tests	Quiz Ch 16 SPSS Lessons 21-23
(18) Tue 11/3	Overview: Nonparametric tests The Chi ² test	Ch 16 Homework DUE Heiman, Ch 21, pp. 587-603
(19) Thu 11/5	The Chi ² test (cont.) Homework/Problem Review	Review for Exam
(20) Tue 11/10	Exam #2 [Ch 14-16]	Prepare for exam
(21) Thu 11/12	“How To” APA Style Paper and Abstract	Quiz Ch 21
(22) Tue 11/17	One Way ANOVA	Heiman, Ch 17 Ch 21 Homework DUE
(23) Thu 11/19	One Way ANOVA (cont.)	Work on report
(24) Tue 11/24	One Way ANOVA (cont.) SPSS: One Way ANOVA and Crosstabs (χ^2)	Quiz Ch 17 SPSS Lessons 39 & 40

Thanksgiving Break---Enjoy!!

(25) Tue 12/1	Two Way ANOVA	Heiman, Ch 18 Ch 17 Homework DUE Draft Report DUE
(26) Thu 12/3	Two Way ANOVA (cont.) SPSS: Two Way ANOVA	Quiz Ch 18

<u>Date</u>	<u>Topic</u>	<u>Readings & Major Assignments</u>
(27) Tue 12/8	Presentations	Work on presentation Ch 18 Homework DUE Final Report DUE

Final Exam Review: To be scheduled

Final Exam: Final Exam [Ch 17-18, 21 (pp. 587-603) + cumulative.]
Tuesday, December 15th at 8:30am.