

Psychology 211B

Experimental Methods & Data Analysis I

Spring 2009

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Course Overview:

This first course in a two-course sequence is designed to introduce you to the scientific method as the means through which knowledge advances in psychology. In it you will learn how to develop and test hypotheses, collect reliable data, use some basic statistical techniques, and to interpret and report the results of statistical tests. You will also begin to learn the skills and tools used by psychologists in their work, including descriptive and inferential statistics, spreadsheets and graphing, the Statistical Package for the Social Sciences (SPSS), and writing in American Psychological Association (APA) format. All students will complete a research proposal for a research project they will conduct during the second course in the sequence. This course is a writing and computing intensive course for the major in Psychology. Prerequisite: PS 120.

Course Objectives:

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

1. Appreciate the strengths and weaknesses of scientific method as a way of knowing
2. Understand and apply the APA Principles of Ethical Conduct to the research process
3. 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
4. Use appropriate on-line and library resources in the research process
5. Design a study to answer a question of the student's interest
6. Understand the connection between research design and statistical analysis
7. Use SPSS (Statistical Package for the Social Sciences) to summarize and analyze data
8. Write a research proposal in APA format

Required texts:

[**Note:** You will use these same texts in Fall 2009 for the second part of the PS 211/212 course sequence. You *must* purchase 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. (2005). Using SPSS for Windows and Macintosh: Analyzing and understanding data (4th 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 APA and SPSS Manuals.

Course Requirements and Grading:

Quizzes	10%
Assignments & Class Participation	15%
Detailed Article Critique	10%
In-Class Exams (3) (10% each)	30%
Final Exam	15%
Proposal & Proposal Writing Process	20%

[Extra Credit]

Explanation of Course Requirements and Grading

Quizzes

A 12-item open book quiz will be given and then discussed in class as we begin each chapter. A **twelve minute** time limit will be *strictly* enforced. Although the quizzes are open book, preparation is necessary: *you will not have time to read the text as you take it!* There will be no opportunity to make up quizzes. There will be 11 quizzes given over the semester. Any points earned over 100 points (out of the 132 points possible) may be applied as extra credit to test grades.

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 class, you should contact the Learning Services Office.

Homework Assignments & Class Participation

Assignments will be announced on a day-by-day basis and posted on Blackboard. Late assignments will be accepted up to 2 days late, at a penalty of 2 points per day. Assignments will include such things as SPSS analyses, the structured article critique, and problems assigned from the end of the chapters in Heiman. 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 though I do not assign them. There is no way to know if you understand the material well enough to test well unless you do the problems.

In-Class Exams & Final Exam

There will be three **in-class** exams over the course of the semester, as noted in the class schedule below. Since this course is a prerequisite for PS 212 (which you will all take in the Fall), there will be a cumulative final exam during the final exam period. In-class exams may have both open and closed book portions, and may consist of question formats such as multiple choice, short answer, short essay and computational problems. The exact format of a particular test will be announced in advance of the test date. The **cumulative final** will serve as a makeup for any exam missed during the semester. In that case, the cumulative final grade will count twice: once as the cumulative final (15% of course grade) and once as the missed exam grade (10% of course grade).

Proposal & Proposal Writing Process

There will be a series of assignments leading up to the point at which you submit the final draft of your proposal for an empirical study which you will conduct next semester (in PS 212). All of these assignments (including all proposal drafts) will contribute to the "Proposal & Proposal Writing Process" portion of your final course grade. You will receive additional, specific information on these assignments as we proceed with the process.

Detailed Article Critique

You will complete and receive feedback on a *structured* article critique as a homework assignment. Using the feedback from this assignment, you will choose an article from the working bibliography for your proposal to do a detailed critique. Specific guidelines for this assignment will be distributed as we proceed with the process.

Extra Credit

Students may earn up to 3 points extra credit applied to the “Proposal & Proposal Writing Process” grade by participating in research projects through the department’s subject pool. One point may be earned for each ½ hour of participation.

Students will also earn extra credit based upon their performance during the 2 APA Quiz Show days.

Calculating your Grade:

A grade of C (72.6) or better in this course is required in order to declare a psychology major (yes, we do check).

To calculate your final grade, I first add any extra credit points earned 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

Students Please Note: It is within the instructor’s purview to apply qualitative judgment in determining grades in the course.

Expectations for the Course

Preparation and Commitment

You **MUST** have basic math skills. If you have difficulty with math, you may need to rethink whether you want to take this course right now. Help is available through Learning Services (see below).

Since this is a rigorous course that serves as a prerequisite for upper level courses 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 **at least** 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. I do 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.

I assume that all of you have had a basic writing course (WRIT 100 or equivalent). Therefore, I expect strong writing to be displayed in your assignments and projects. Spelling, grammar, and structure are always relevant, and will therefore be an important factor in my 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. Students 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

Contacting Me

Office Hours: Monday/Wednesday 3:30pm-5pm
Tuesday/Thursday 11:30am-12:15pm (in PPHAC 112, as needed)
Or by appointment

My office hours are also posted on Blackboard (including any necessary changes on a weekly basis).

(email: meljt01@moravian.edu) (Telephone 610-861-1565)

e-mail is the preferred means of contacting me. Phone messages will be returned via e-mail, except for special circumstances. If you are using an e-mail address other than your college address, please let me know what it is.

Access to Files/Computing Resources

If you do not know your user name and password for **Blackboard**, you may stop by the Help Desk in Memorial Hall, phone CIT at 610-625-7929, or e-mail the Help Desk at help@moravian.edu.

You can access **PsycINFO** from off campus via AMOS. Instructions for off campus access will be available at our in-class library workshop.

We will work with SPSS files that will be saved for class use on the **p drive** in the Psychology folder in the file named "PS211Toedter". The p drive cannot be accessed from off campus.

Learning Services

Students with learning disabilities who need special accommodations for this course should contact Ms. Laurie Roth, Director of 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.

I will be working 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. I will not change the due dates for major assignments.

Class Schedule

<u>Date</u>	<u>Topic</u>	<u>Readings & Major Assignments</u>
(1) Tue 1/20	Introduction to the Course	None
(2) Thu 1/22	Introduction to Scientific Method	<u>Heiman</u> , CH 1
(3) Tue 1/27	Scientific Method (cont.) Introduction to SPSS	<u>SPSS</u> , Lessons 1,2 Quiz on CH 1 today
(4) Thu 1/29	Overview of the Research Process	<u>Heiman</u> , CH 2 +QUIZ
(5) Tue 2/3	Research Process (cont.)	Work on Long Topic List
(6) Thu 2/5	Library Class	Long Topic List DUE
(7) Tue 2/10	Research Process (cont.) Reliability & Validity	<u>Heiman</u> , CH 3 +QUIZ
(8) Thu 2/12	APA Quiz Show Day #1	<u>APA</u> , CH 1-2 Best 3 Topics DUE
(9) Tue 2/17	Reliability & Validity in Research (cont.) Research Ethics	Structured critique DUE Ethics Readings as assigned
(10) Thu 2/19	Exam #1	Prepare for Exam
(11) Tue 2/24	Design Issues in Experiments	Heiman, CH 4 +QUIZ Corrections to Best 3 Topics (if needed)
(12) Thu 2/26	Design issues in Experiments (cont.)	Work on Annotated Bibliography; Corrections to structured critique, if needed

Spring Break- -Enjoy!!

<u>Date</u>	<u>Topic</u>	<u>Readings & Major Assignments</u>
(13) Tue 3/10	Design issues in Descriptive Research	<u>Heiman</u> , CH 5 +QUIZ Annotated Bibliography DUE
(14) Thu 3/12	Design Issues in Descriptive Research (cont.)	Revised structured critique DUE
(15) Tue 3/17	Frequency Distributions & Percentiles	<u>Heiman</u> , CH 6 +QUIZ <u>SPSS</u> Lesson 12 Revisions to Annotated Biblio. DUE if needed
(16) Thu 3/19	Charts & Graphs in Excel	Additional revisions to structured critique DUE, if needed
(17) Tue 3/24	Measures of Central Tendency	<u>Heiman</u> , CH 7 +QUIZ Research Proposal Outline DUE
(18) Thu 3/26	Measures of Variability	Detailed article critique DUE
(19) Tue 3/31	Exam #2	Prepare for Exam
(20) Thu 4/2	APA Quiz Show Day #2	<u>APA</u> , CH 3-4 Revisions to proposal Outline DUE (if needed)
(21) Tue 4/7	Measures of Variability	<u>Heiman</u> , CH 8 +QUIZ Revisions to detailed critique DUE (if needed)
(22) Thu 4/9	Measures of Variability (cont.) Begin z scores	1st Draft of Proposal DUE
(23) Tue 4/14	z-scores	<u>Heiman</u> , CH 9 +QUIZ (omit pp.236-242)

<u>Date</u>	<u>Topic</u>	<u>Readings & Major Assignments</u>
(24) Thu 4/16	z-scores (cont.) Begin Correlation	z-score problems 2nd Draft of Proposal DUE (if needed)
(25) Tue 4/21	Correlational Designs	<u>Heiman</u> , CH 10 +QUIZ
(26) Thu 4/23	Exam #3	Prepare for Exam
(27) Tue 4/28	Correlation (cont.)	<u>SPSS</u> , Lesson 30
(28) Thu 4/30	Linear Regression	<u>Heiman</u> , CH 11 +QUIZ Final Draft of Proposal DUE (if needed)

Final Exam: Friday, May 8th @ 1:30pm (PPHAC 112)
Cumulative Final Exam + CH 10-11.