

# Psychology 212A

## Experimental Methods & Data Analysis II

### Fall 2013

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**Office Hours:** Mondays, Wednesdays & Thursdays 1:00-2:30pm  
*or by appointment* [Please check Blackboard for Updates]

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#### **Course Overview:**

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

We will be using the same texts as those you used in PSYC 211 last semester. You should bring the Jackson text to class every day. I will announce in advance the days on which you will need your Dunn text. ***Please also be sure to bring a calculator with a square root function to class each day.***

### **Attendance:**

Please plan to attend all classes: you will be asked to sign in at the beginning of each class. If you must miss a class, be sure to contact me in advance to arrange homework submission and to get handouts and notes. I will accept homework and other assignments without penalty with a valid excuse (e.g. doctor's note, note from another professor). Otherwise a 2 point per day deduction will apply. Please remember that quizzes cannot be made up and missed exams will be replaced by the cumulative final (see below). If special circumstances arise that will cause you to miss more than one or two classes, please contact Learning Services.

### **Course Requirements and Grading:**

Quizzes	<b>10%</b>
Assignments [including Presentations]	<b>15%</b>
In-Class Exams (2) (15% each)	<b>30%</b>
Final Exam	<b>20%</b>
Research Project	<b>25%</b>

[Extra Credit]

### **Explanation of Course Requirements and Grading:**

**Quizzes:** Open book/open note quizzes will be given as noted on the attached quiz schedule. Not all quizzes will have the same number of questions. Over the semester you will take quizzes totaling 94 points. Anyone earning 82 points will get 100% for their quiz grade. Points earned over 82 will count as extra credit on your exams. ***Please remember that quizzes cannot be made up.***

**Assignments:** Although some assignments appear on the course schedule, most homework assignments will be announced on a day-by-day basis. Late assignments will be accepted with a deduction 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. The assignment grade will include your two project presentations as well as computational problems from the end of the chapters in Jackson and other sources. Your presentations will be graded with a focus

on clarity of expression, quality of visual aids and your overall understanding of your project components.

In-Class Exams & Final Exam: There will be two in-class exams over the course of the semester, as noted in the Class Schedule. Similar to last semester, 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. 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 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 will 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. Anyone wishing to turn in one or more drafts prior to the final due date for the project is encouraged to do so. Please see me in advance so that we can set up a workable timeline. (100 pts.)

Extra Credit: Quiz points earned in excess of 82 will count as extra credit. In addition, students may earn up to 3 points of extra credit by participating in research projects through the department's subject pool (except for those of your classmates, of course!) One point may be earned for each ½ hour of participation. Additional opportunities will be announced as they become available. Extra credit will be added to your lowest exam grade(s) before your final grade for the course is computed.

### **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

**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.

### **Academic Integrity:**

Academic integrity is a core value of the college. 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 Psychology Department requires the use of APA format for referencing. We also require that you keep all notes and rough drafts until given a grade for the course. See the Student Handbook on AMOS for a more complete description. Please see me for any needed clarification.

### **Other Important Information**

#### **Blackboard**

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

## Learning Services

**Students** who wish to request accommodations in this class for a disability should contact Elaine Mara, Assistant Director of Academic and Disability Support in the Academic Support Center at 1307 Main Street (ext. 1510). Accommodations cannot be provided until authorization is received from the Academic Support Center.

**Students Please Note:** The class schedule that follows is subject to change at my discretion in order to make the class flow more smoothly.

## **Class Schedule**

**[Please note:** Homework problems will be assigned on the day we complete the in-class problem(s) for a particular statistical test. They will be due at the next class meeting. Since it is sometimes difficult to know exactly when we will finish the in-class problem(s), I have not put the individual homework assignments in the syllabus.]

<u><b>Date</b></u>	<u><b>Topic</b></u>	<u><b>Readings &amp; Major Assignments</b></u>
(1) Mon 8/26	Overview of Course/Syllabus Project Process	None
(2) Wed 8/28	Individual meetings	Review Ch 4 (pp. 92-95) & Ch 9 (pp. 226-243) & do handout
<b><i>Labor Day --- Enjoy!</i></b>		
(3) Wed 9/4	Presentations	Work on presentation
(4) Mon 9/9	Writing: APA format	Jackson, Ch 14
(5) Wed 9/11	Probability	Jackson, Ch 7, pp. 172-83
(6) Mon 9/16	Hypothesis testing I	Jackson, Ch 7, pp. 183-91 Work on HSIRB packet
(7) Wed 9/18	Hypothesis testing II	<b>HSIRB packet DUE</b>
(8) Mon 9/23	Single Sample Tests I	Jackson, Ch 8, pp. 197-207
(9) Wed 9/25	Single Sample Tests II	Jackson, Ch 8, pp. 209-16
(10) Mon 9/30	Single Sample Tests III & Exam Review	Prepare for exam

<u>Date</u>	<u>Topic</u>	<u>Readings &amp; Major Assignments</u>
(11) Wed 10/2	<b>Exam #1</b>	Prepare for Exam
(12) Mon 10/7	Getting Started Workshop Day Significance testing: correlations	Jackson, Ch 8, pp. 218-20 <b>Signup sheet &amp; script drafts DUE</b>
(13) Wed 10/9	t-test for Independent Groups I	Jackson, Ch 10, pp. 249- 57 [omit pp. 255-6 Cohen's d]
<b><i>Fall Break---Enjoy!!</i></b>		
(14) Wed 10/16	t-test for Independent Groups II	<b>Begin data collection</b>
(15) Mon 10/21	t-test for Dependent Groups I	Jackson, Ch 10, pp. 257- 61 (omit Cohen's d)
(16) Wed 10/23	t-test for Dependent Groups II	<b>Work on Revisions to Intro., Methods, Refs.</b>
(17) Mon 10/28	Overview: Nonparametric tests The Chi <sup>2</sup> test I	Jackson, Ch 10, pp. 269- 72
(18) Wed 10/30	The Chi <sup>2</sup> test II & Exam review	Begin exam review
(19) Mon 11/4	<b>Exam #2</b>	Prepare for exam
(20) Wed 11/6	Overview: ANOVA Data Analysis Workshop Day	Jackson, Ch 11, pp.281-9 [pp. 289-294 optional]
(21) Mon 11/11	One-way ANOVA I	<b><i>Finalized coding system/data analysis plan DUE</i></b>
(22) Wed 11/13	One Way ANOVA II	Jackson, Ch 11, pp. 294-9
(23) Mon 11/18	One Way ANOVA III	Jackson, Ch 11, pp. 299- 301

<u>Date</u>	<u>Topic</u>	<b>Readings &amp; Major <u>Assignments</u></b>
(24) Wed 11/20	Two Way ANOVA I	Jackson, Ch 12, pp. 315-22 & pp. 328-32 [pp. 323-8 optional]
<b><i>Thanksgiving Break---Enjoy!!</i></b>		
(25) Mon 12/2	Two Way ANOVA II	Work on presentation & final report
(26) Wed 12/4	Presentations	Work on presentation <b>Final Report DUE</b>

**Final Exam Review:** To be scheduled

**Final Exam:** Tuesday, December 10<sup>th</sup> at 1:30pm