

**Experimental Methods and Data Analysis I**  
**PPHAC 112**  
**Fall 2009**

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**Psychology 211**

Scientific method as the means through which knowledge advances in the field of psychology. Developing and researching hypotheses, collecting data, testing hypotheses using appropriate statistical techniques, interpreting and reporting statistical results. Research methodology, descriptive statistics, and inferential statistics, as well as computer software Statistical Packages for the Social Sciences to analyze psychological data. Students will be responsible for researching a topic and creating a research proposal. Writing intensive. Prerequisite: Psychology 120

**Relevant Quotes**

“The true scientist does not find security in the knowledge which has been accumulated, because s/he knows that any day that knowledge may be contradicted by some new finding. Her/his security lies in the SCIENTIFIC METHOD, a PROCESS of arriving at approximations of the truth.”

C. Rogers

“The real purpose of the scientific method is to make sure that nature hasn’t misled you into thinking you know something you don’t actually know.”

R. Pirsig

“One thing I have learned in a long life: that all our science, measured against reality, is primitive and childlike – and yet it is the most precious thing we have.”

A. Einstein

“We have a society which is built on science and technology and which uses science in every one of the aspects of national life, and in which the public, the executive, the legislature and the judiciary have very little understanding of what science is about. This is a clear disaster signal. It has to be suicidal.”

C Sagan

**Course Objectives**

1. To have you develop an understanding of, a sophistication

with, and an appreciation for the scientific method.

2. To provide you with active experiences in the constructive application and evaluation of research designs in psychology.
3. To stimulate and reinforce divergent thinking in each of you by:
  - \* establishing a classroom climate that encourages divergent ideas,
  - \* communicating an attitude which regards scientific thinking as a creative endeavor,
  - \* and by instilling in each of you a confidence in your ability to solve problems in psychological research design.
4. To have you come to an appreciation of the role of statistics in scientific research and develop an understanding of the proper usage and limitations of each statistical tool and the ability to interpret them correctly.
5. To have you successfully master perhaps the most vital course in which you will enroll as a Psychology major.

### **Required Course Materials**

Dunn, Dana S. (2004). *A Short Guide to Writing About Psychology*. N.Y., Pearson.

Green, Samuel B. & Salkind, Neil J. (2008). *Using SPSS for Windows and Macintosh*. (5<sup>th</sup> ed.). N.J.: Pearson Prentice Hall

Heiman, Gary W. (2001). *Understanding Research Methods and Statistics* (2<sup>nd</sup> ed.). N.Y.: Houghton Mifflin Company.

Publication Manual of the American Psychological Association. (2009). (6th. ed.). Washington D.C.

A good calculator - This calculator should have the ability to do square roots, a summation key, a memory capacity, and the ability to compute means, standard deviations, and correlations.

### **Summary of Grading Criteria**

Test 1	15%
Test 2	15%
Quizzes	10%
Final	15%
Homework & writing assignments	15%

Class attendance & participation	10%
Rough Draft of Research Proposal	5%
Final Draft of Research Proposal	15%

### **Grading Mechanics**

Our task for this course is to develop a sophisticated awareness of the scientific method and the ability to apply it! Because of the perceived difficulty level of this material the grading structure has been designed to have multiple inputs to give you the best chance to demonstrate mastery of the material. Opportunities for extra credit will also be announced in class.

### **Tests**

The tests will be comprehensive and encompass all assigned reading and material presented in class up to that point in time. As we move further along in the course the second test will primarily focus upon the material covered in that part of the semester. Please note that all later material builds on the preceding content. You need to build a solid foundation early on in the course in order to master the course content. The precise format of each test will be explained to you in class as the test date approaches. Test dates appear on the class calendar.

### **Final Exam**

The comprehensive final exam serves as the last opportunity for you to demonstrate mastery of this material. It is scheduled for either Friday 12/11 at 8:30 am for PS211B or Monday 1:30 pm for PS211C. This exam also serves as an automatic make-up exam for either test that was missed due to an approved legitimate excuse earlier in the semester. As an additional incentive to perform well on this test if you have taken both in-class exams and if the grade is higher on this final exam than on your lowest test grade it will be used instead of the test grade in computing your final course average. If the final exam grade is lower than your lowest test grade then it will just be weighted at the assigned weight of 10% input into your final grade.

### **Quizzes**

On-line quizzes for most chapters in our primary textbook, *Understanding Research Methods and Statistics*, will be assigned in class. They are to be taken outside of class and are to be completed no later than the night before the assigned reading is due for that chapter. These are timed quizzes that are to be taken in a closed book fashion.

### **Make-up Tests**

It is expected that you will be present for all tests. If you are too ill to take the test, please inform me before the test (Phone numbers are on the first page.) and verify the illness with a written doctor's excuse. You will then plan to take the final exam as a mandatory make-up test.

## **Homework**

One of the best ways to learn and to gain a thorough understanding of this material is to apply it, and therefore homework assignments will occur systematically throughout the semester. Homework assignments are also an excellent way for you to discover areas that you need assistance with in order to master the material. Please feel free to visit me during office hours if you are having difficulty with a particular assignment. Some of these assignments will be announced in class so make sure that you pair up with a fellow student who can fill you in on that rare occasion where you might miss a class. Some of the homework assignments are deliberately designed to help you in learning how to conduct your own original research and also to learn how to write it up in APA format. I will also use Blackboard as a mechanism for making homework assignments. It is your responsibility to check this class feature on a regular basis. Please sign up for this communication device before our next class on Wednesday.

## **Class attendance and participation**

Attendance and participation at all regularly scheduled classes is both desired and expected. Our class size has been deliberately limited in order to allow our classes to be interactive with you playing an active role in your own learning. We will explore material in class that is not covered in our textbook. In addition, class problems may be assigned as homework. You are expected to have all homework assignments and reading specified on the class calendar done **before** class meets. Missing class is not an acceptable excuse for missed assignments.

## **Research Proposal**

This proposal, in APA format, essentially consists of the introduction and methods section of your research project. It is here where you and your research partner will provide a detailed description of the research project that you plan to conduct. Although we will discuss ideas in class you should begin thinking about potential research topics immediately. Your research topic, hypothesis, and minimally 5 references will be an assigned homework topic later in the course. A peer review of your design will take place in class. The due date for the proposal will be 11/30.

In addition to the Dunn text you will find that appendix C, Empirical research Reports in Psychology, in the Heiman textbook will be very helpful in writing this report. In addition the APA Publication Manual will be especially useful.

NOTE: Late materials will be devalued 10 points for each day late. Assignments must be typed using APA format and style. Grades will be based on content and style. Content refers to the information presented, the use of appropriate references, a demonstrated understanding of the problem studied, the appropriateness of the analysis, and the quality of the discussion. Style refers to how well the content is presented including grammar, punctuation, spelling, and adherence to APA format.

## **Human Participants for Psychological Research**

There is an approved college wide policy with respect to use of human participants in research projects. This policy spells out the correct ethical procedures to follow. We will go over this policy in detail in class at the appropriate time in the semester.

Student researchers who fail to be present for a scheduled session with participants, or who fail to follow the participant pool guidelines, will risk the loss of participant pool privileges.

## **Blackboard Course Site**

As a method for easy communication in our course please sign up for Blackboard.

## **Policy on Plagiarism**

The Moravian College faculty have become increasingly concerned about the occurrence 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 or paraphrasing 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. Students are to keep all notes and rough drafts of 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.

## **Office Hours**

Monday	3:30 – 4:30
Tuesday	10:30 – 11:30
Wednesday	3:30 – 4:30
Thursday	10:30 – 11:30
Friday	by appointment

If you need to see me at some other time, both office and home phone numbers are listed on the first page. My email address is also listed there. Please contact me and we will arrange for a mutually convenient time to get together.

## **Note:**

Please note that it is within the instructor's purview to apply qualitative judgment in determining grades for any assignments and for the course final grade.

Please note while I will try to hold to the flow of the syllabus it is subject to change over the course of the semester.

### **Students with Disabilities**

Students who wish to request accommodations in this class for support of learning disabilities and/or ADHD, should contact Mrs. Laurie Roth, Director of Learning Services, 1307 Main Street (extension 1510).

Students who wish to request accommodations for support of other disabilities, should contact Dr. Ron Kline, Director of the Counseling Center, 1307 Main Street (extension 1510).

Accommodations cannot be provided until authorization is received from the appropriate disability support provider on campus.

### **Requirement for enrolling in PSYC 212**

This statement is a reminder that you need to earn a grade of C or better in PS 211 in order to enroll in PS 212. Both courses are required for the major in Psychology.

### **Class Calendar**

Our class calendar and assignments will be posted on Blackboard on a weekly basis. Please register for Blackboard ASAP so that you have access to this information.

8/31 Introductory remarks & exploring class expectations A  
real life example of the use and misuse of data

9/2 Homework – React to article, “Money Matters”

9/7 No class “Labor Day”

9/9 Heiman, Chap 1 Introduction to the Scientific Method

Further assignments will be updated weekly on Blackboard.

### **Important Dates:**

10/21 Test 1

12/2 Test 2

11/30 Due date for research proposal

Final Exam Friday 12/11 at 8:30 am for PS211B or Monday 1:30 pm for PS211C.