Syllabus
University of Detroit Mercy
Department of Psychology

Psychology 301 Experimental Psychology
Fall, 2003

Harold H. Greene, Ph.D. Mon. 6:40 -9:10 p.m.
B230
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Office hours: Reno 202, Mon 4- 5 p.m. (or by appointment)

Texts: 1. Langston, W. (2002). Research methods laboratory manual for psychology
2. Martin, D. W.(2003). Doing Psychology Experiments

Recommended resources:
1. *knowledge.udmercy.edu* (access code:____) for syllabus, lecture outlines, etc

2. Rosnow, R. L. Rosnow, M. (2003). Writing Papers in Psychology (In bookstore)

3. http://research.udmercy.edu/edesk/index.html (for questions about using the library)

Prerequisite: PYC 100; STA 225

Course objectives:

-To help students become (more) comfortable with experimental research. Although our goal is not (necessarily) to master computational aspects of statistics, students will be expected to master some statistical concepts.

-To develop an understanding of the language, methods, and standards of scientific research.

-To enable students to generate research questions of interest, and teach them how they can use the tools of research and statistical methods to address their questions. This includes learning how to phrase research questions, formulating hypotheses, conducting computerized/internet literature searches, following ethical principles, selecting an appropriate design and sampling strategy, forming appropriate conclusions, and writing a paper that effectively describes the research. If one cannot effectively communicate one's research findings, those findings will remain generally unknown.

-To develop an appreciation of the need for a commitment to research as part of the life of research *and* professional psychologists.

-To help students develop a general spirit of inquiry and an ability to think critically.

Learning opportunities

To achieve the course objectives, the primary material in the course will be provided by the lectures (and lecture notes). My intent is to emphasize theoretical and real world applications, without getting inundated with statistical formulae and computations. However, at times it may do you well to have a look at related computations in your STA 225 text.

During the second part of the course, students will form **research groups** to formulate, carry out and write up research projects. Our goal here is to apply the concepts learned earlier to research questions.

As we come from diverse academic backgrounds, some of you may find that I am proceeding through the material too slowly (especially in the early weeks); and others may find the progress too rapid. If you are among the former, you can sit back, enjoy the lectures and inject discussion issues of interest at reasonable points in the lecture. However, if you are among the latter, you should interrupt me at reasonable points and ask questions, or seek extra assistance during my office hours. You may also call the Learning and Writing center for help with study skills.

Expectations and Class Etiquette

This is a demanding course. It is imperative that you work hard and consistently throughout the semester. My responsibility (as instructor) to you (as a student) is to help you reach your full potential. As such, you may expect the following from me:

- I will come to class on time
- I will be available to meet with you during office hours
- I will have your tests quickly graded
- I will listen to, and carefully consider any well thought out question or concern you have about grading, or any other aspect of the class
- I will treat each one as a university student. That means the responsibility for doing well in this class lies with you, but I shall endeavour to assist you
- Be aware that I may call on you during class. Your response to my questions may lead to follow-up questions addressed to you. I do this to gain insight into your understanding of the material (which helps me as I help you learn) and to help other students appreciate the depth of an issue.

In order for this class to be a success, and for you to get as much as possible from it, I expect at least the following from you:

- You will come to class on time
- You will not hold idle conversations during the lectures

- In your dealings with any person in this class, you will conduct yourself, always, with a minimum of respect, making sure to make your contributions in a manner that is neither rude nor offensive
- You will do all the reading assignments
- Barring death in the family, or illness, you will take the exams as scheduled

Evaluation procedures:

1. Class participation:

Students are expected to attend the full length of each class session. You are also expected to come to class on time, especially during the laboratory sessions in Part 2 of the course. I believe that learning is most effective when students are motivated to answer questions, and to ask meaningful questions about the issues at hand. With respect to this, we may benefit from some Socratic axioms:

(1) "I'll only do or believe in what I can decide for myself," (2) "Thinking for yourself is more important than the answers you get," (3) "Asking the right question is more important than getting a quick answer," (4) "We don't know as much as we think we know"

(Axioms courtesy of *http://bovel.stonebear.com/vade/Philosophers/socrates.htm*) (disabled lately)

Hence, I strongly encourage discussion of the issues presented in class, and active participation in laboratory sessions. **Ten percent** of your final grade will come from participation.

2. Exams:

There will be **2 in-class exams**. The first exam grade will count as **10%** of your grade. The second exam is cumulative and will count as **30%** of your final grade. Except for extraneous circumstances (determined subjectively by me), students may take exams only on the announced dates. Note that the exams have been finely designed to test not only your recall of facts but also your understanding of concepts. You may safely expect to see a range of question types from those that are instantly obvious to those that require thought. **Students will not be allowed to leave the test room before 30 minutes have elapsed**, **nor will late-comers be allowed entrance after this time.** This is to ensure the integrity of the test and test-taking process.

3. Lab exercises

Fifty percent of your final grade will come from laboratory reports

4. Bonus points opportunity (extra-credit):

A total of **3%** is available as bonus, to be added to your final course percent score if you (a) participate in 3 of the on-going studies by research psychologists in the Psychology department (1% per study/hour), **or**

(b) write a 1-2 page summary paper on a journal article. The article must be approved by me before you write the paper. The paper will be due at the end of the semester.

Tentative Class Schedule

Week **General topic (Lecture worksheets are available online)**

----------*PART 1:* ***Formal concepts in Experimental Psychology***----------

Sep 8 Syllabus review;
Lecture: Why study Experimental Psychology?
Reading: M chapter 1, 2 (some fundamental issues)

Sep 15 *Lecture:* Introduction to Experimental research;
Reading: M chapter 3 (getting experimental ideas)

Sep 22 *Lecture*: Single factor designs
Reading: M chapter 7, 8 (deciding which variables to manipulate and measure)

Sep 29 *Lecture*: Statistical logic- basics;
Recommended reading: M Appendix
Review for Exam 1

Oct 6 **Exam 1** (10%)

Oct 13 Exam 1 results;
Lecture: Statistical logic: hypothesis testing
Recommended Reading: any Introductory Statistics text

Oct 20 *Lecture*: Multi-factor designs; Multi-factor design exercises
Reading: M Chapter 12 (Interpreting Factorial results)

Oct 27 *Lecture:* How to tell when you are ready to begin your experiment;

Ethics and the IRB
Reading: M Chapter 11; 4; L Appendix A

Discussion: Literature reviews; writing empirical research reports
Reading: M Chapter 6, 13; L Appendix C; L Appendix D
Review for Exam 2

Nov 3 **Hand in Library assignment for 2 % participation** (no late assignment)
Exam 2 (cumulative; 30%)
Post exam recommended reading : L Appendix E (Installing the software)

----------*PART 2: Application of concepts*----------

Nov 10 Exam 2 results;
Discussion: the RM software; two-group experiments (Stroop effect);
Exercise: Data collection, analysis
*Read*ing*:* L chapter 4;
Recommended resource: R & R
Lab Assignment 1: Title, Introduction, Method and Results (10%)

Nov 17 **Hand in Lab assignment 1** (no late assignment)
One way design with Stroop effect (within Ss)
(4 Groups will design and conduct projects in class)
Reading: L chapter 5
Recommended resource: R & R
Lab Assignment 2: Full Lab report (10%)

Nov 24 THANKSGIVING

Dec 1 **Hand in Lab assignment 2** (no late assignment)
2 (words vs pseudo-words) X 2 (congruent vs incongruent) factorial (Stroop)
Recommended resource: R & R
Reading: L Chapter 7
Lab Assignment 3: Full Lab report (30%)

Dec 8 **Hand in Lab assignment 3** (no late assignment)
Hand in bonus assignment

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