

Research Methods

PSYC 2015

Fall, 2010

Tuesday / Thursday, 12:05 – 1:25PM, Room 250 J.S. Coon Building

Instructor: Andrew Kelly

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Teaching Assistant: Matthew Betts

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Course Description:

This course is designed as introduction to the fundamental principles of conducting and evaluating empirical research in psychology. First, you will learn about the basic building blocks (e.g., measurement theory, reliability, validity, etc.) of sound research in psychology. Next, we will see how these principles operate in different classes of research including: experiments, quasi-experiments, survey research, and correlational research. We will also discuss ethical issues associated with participant testing. By the end of the class, you should not only be prepared and able to conduct your own research, but to also be a critical consumer of research in your field of study and in the world at large.

Course Text:

Whitley, B.E. Principles of research in behavioral science. (2nd ed.)

– *Available only from Engineer's bookstore.*

Suggested: Publication Manual of the American Psychological Association, 6th ed.,
Washington, D.C.: American Psychological Association

Course Website:

www.t-square.gatech.edu

Course Schedule (Tentative):**INTRODUCTION**

What is Science? (Whitley, Ch. 1, pp. 1 – 28)

Developing a research Project (Whitley, Chapters 2 & 4)

RESEARCH FUNDAMENTALS

Ethical Treatment of Participants (Whitley, Ch. 3, pp. 57 - 87)

Measurement Theory

Reliability (Whitley, Ch. 5, pp. 121 – 153)

Validity

Threats to Internal Validity (Whitley, Ch. 6, pp. 155 - 179)

RESEARCH STRATEGIES

The Experiment (Whitley, Ch. 7, pp. 181 – 220)

Manipulation of the Independent Variable

Controlling Extraneous Variance

Multiple Group Designs

Factorial Designs

Naturalistic Observation (Whitley, Ch. 10, pp. 299 – 341)

Field Experiments

Quasi-Experiments

Interviews

Correlational Research (Whitley, Ch. 8, pp. 221 – 261)

The Correlation

Correlation vs. Causation

Case Studies (Whitley, Ch. 9, pp. 263 – 298)

Survey Research (Whitley, Ch. 11, pp. 343 – 387)

Developing Questions and Response Scales

Getting Answers, Response Bias, and Questionnaire Administration

Course Requirements:

Tests: Over the course of the semester there will be three tests. Each test will primarily cover what we have learned in the course during that interval of time. However, it will also include information from past sessions as well.

Test 1 (September, 28): 60 points

Test 2 (November, 9): 60 points

Final: 100 points

Quizzes (*Total Points - 100*): During this class you will be frequently quizzed. The quizzes can be on anything we have learned about up to that point. Quizzes will normally be 5 points each. Note, the final quiz total will be out of 90 points, allowing you to earn 10 extra points. **Also, quizzes will be administered at the beginning of class so be on time!** Like tests, once the first person hands in their quiz, no one will be able to begin the quiz.

Research Proposal (*Total Points - 100*): At the end of class you will be expected to hand in a 10 - 15 page research proposal on a topic of your choice. You will get more information about this in the lab sections.

Lab Grade (*Total Points - 100*): An important part of this class is your laboratory section. In the lab, you will talk more about topics discussed in class, as well as get familiar and learn APA formatting. Your lab instructors will give you a syllabus for your lab section. At the end of the semester, your instructor will give me a score out of 100 that constitutes your performance in the lab.

Research Participation Requirement (*Total Points - 5*): During the semester, you will have to complete 5 hours of research (i.e., 5.0 experimetric credits). If you do not choose this option, you may write a research report, which will be arranged with the TA.

Class Grade:

A straight grading scale is the default (i.e., 463.5 - 515 = A; 412 - 463 = B; 360.5 - 411.5 = C; 309 - 360 = D, 308.5 or lower = F). However, I reserve the right to adjust the grades up depending on the distribution of scores, but this adjustment is in no way guaranteed. Grades will never be adjusted downward.

Tests:

If you arrive to the examination after the first person has turned in the exam you will NOT be permitted to take the exam. There will be NO make up of any fashion if you are late in this manner. Exam dates are set. There will be no deviation from these dates. If for some reason the total material for that exam is not covered in class, then the missed material will be removed from the exam.

Missing Tests and Quizzes:

There are **NO** make-ups exams. If an institute approved absence (see the Dean of Students website) prevents a student from taking an exam at the given time, PRIOR arrangements should be made with the instructor. Minimum notice for approval is one week and documentation may be required where appropriate.

Concerning quizzes, although 100 points are available, the final grade is based on 90 points. As a general rule, I will not allow students to make up quizzes. Quizzes will normally be 5 points, and thus this grading scheme allows you to miss two classes without penalty. Note, it also allows you to gain 10 extra points in the class if you make it to all the quizzes.

Teaching Philosophy:

Memory research has demonstrated that repeated retrieval of information is beneficial for not only short-term memory performance, but also for long-term retention of information. My goal as a teacher is to get you to learn the information so you can do well on tests (i.e., short-term memory) but also to get you to remember this information for future classes (i.e., long-term memory), and beyond.

To this end, I will test you often in this class. Moreover, questions on test and quizzes can be drawn from material previously covered up through that point in time.

Students with Disabilities:

Students with disabilities must provide me with the Georgia Tech ADAPTS accommodation letter by the **third** week of class. No accommodations will be made without this letter, and there are no guarantees for accommodation if the letter is presented after the third week of class. Also, please email a week before the exam if you plan on using the testing facilities at the ADAPTS office. Please email or talk with me before/after class or contact the ADAPTS office (404-894-2564).

Academic Integrity:

All students are assumed to have read the Honor Code and considered to be bound by it. Violations of the Honor Code are taken VERY seriously and will result in a failing grade for the course and potentially referral to the Dean of Students for further action. Any student caught cheating will have their test taken away and receive a zero on that test. Other forms of academic dishonesty include (but are not limited to) turning in someone else's work, plagiarism, receiving assistance from or giving assistance to others during

exams, using book notes on an exam, and the use of electronic or other sources of information during an exam. (See www.deanofstudents.gatech.edu/osi for more information.)

Courtesy:

Respect and be considerate of others in the class. Please be on time. It should go without saying, but turn off all ringers, cell phone, PDA, etc., before entering the class and refrain from talking. Headphones will not be allowed unless medically necessary. If you disturb the class, you may be asked to leave.