

INTRODUCTION TO RESEARCH DESIGN AND ANALYSIS

PSYC 3510 (14861), Spring 2012

TR 10:00-11:45, GCB 201

4 Credit Hours

Instructor
Office
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Office Hours

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Tuesday 1:00-3:00pm or by appointment

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Course Description

PSYC 3510 provides an introduction to research design, data analysis, and scientific communication as applied to psychological research questions. Topics include research ethics, fundamentals of hypothesis testing and research design, descriptive data collection techniques, and data analysis and interpretation using z-scores, correlation and regression, chi-square tests, and t-tests. Concepts are introduced in class through lecture and discussion and applied during class activities and other assessments. Student progress is assessed via online quizzes, papers, and examinations.

Course Objectives

Students who successfully complete this course should be able to understand and apply basic principles of research design, analysis, and interpretation to psychological research questions. This includes the ability to communicate effectively in both spoken and written formats regarding:

1. The basic terminology of psychological research designs
2. Defining and writing psychological research questions
3. The advantages and disadvantages of using the scientific method to explore psychological phenomena
4. The ethical guidelines for the development, conduct, and presentation of psychological research
5. The nature and purpose of testable hypotheses
6. The logic of hypothesis testing
7. Descriptive research designs and their appropriate statistical analyses
8. The appropriate interpretation of statistical results
9. The basic structure and function of scientific communication in psychology

Enrollment Limitations

All students in this class must have completed and passed MATH 1070, 1101, 1111, 1113, 1220, or an equivalent with grade of C or higher.

Students who are unable to pass PSYC 3510 with a **grade of C or better in two attempts** shall not be permitted to repeat the course or to enroll in any departmental courses for which PSYC 3510 is a prerequisite. As this course is required for both the B.A. and B.S. in Psychology, failure to pass the course in two attempts prevents one from declaring or continuing as a Psychology major. This restriction also applies to PSYC 3530.

Required Texts

There are **two required texts** for the course. These are also the required texts for PSYC 3530 (Advanced Research Design and Analysis). Students should bring their stats book to class.

Gravetter, F.J. & Wallnau, L.B. (2011). *Essentials of Statistics for the Behavioral Sciences* (7th Ed). Belmont, CA: Wadsworth/Thomson Learning. ISBN-10: 049581220X

Gravetter, F.J. & Forzano, F.B. (2012). *Research Methods for the Behavioral Sciences* (4th Ed). Belmont, CA: Wadsworth/ Thomson Learning. ISBN-10: 1111342253



At www.iChapters.com, students can get...

! hard copies of the textbooks at 25% off

! on-line versions of the textbooks at 50% off

Required Technology

Email. All e-mail will be conducted using your **official Georgia state e-mail**. All other e-mail accounts may not be received. For more information on GSU email accounts for students, go to: http://www.gsu.edu/help/information_students.html

uLearn. All members of the class are expected to **check the uLearn site associated with this class on a regular basis**. Students should be sure to check the site before class meetings and print out any handouts or other materials that are related to in-class activities.

To access uLearn, go to the Georgia State homepage, click on the uLearn button located in the upper right hand corner of the screen, and follow the login instructions. **A non-graded pre-test must be taken before folders can be accessed.**

SONA. **Application tests are scheduled online using a software program called SONA.** Additional information about how to use SONA will be provided in class. To set up your SONA user account go to: <http://gsu.sona-systems.com> . Please double-check that you have entered your class section and email address correctly because these are the two most common errors that result in problems with the site.

Textbook Companion Sites. A variety of useful resources, including online quizzes, learning objectives, and digital flashcards for each chapter, are available for students at the textbook companion websites. Access to all materials on the textbook companion websites is free. Links to the companion websites are available via uLearn.

Calculator. You will need to **bring a calculator to class** and you will need one for the assessment tests. You can bring any calculator to class but the calculator you use for testing cannot store any information or connect to the internet. This means **you cannot use cell phone calculators OR graphing calculators**. You may use the calculator available on the computer in the lab or bring your own.

Learning Assessment

Learning Outcomes. **A non-graded pre-test must be taken** before ULearn folders can be accessed. There will also be a **post-test**. Students who **do not take the post-test may receive an incomplete**. These tests will be used to measure learning outcomes for this course.

Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State University. Upon completing this course, please take the time to fill out the online course evaluation.

Chapter Quizzes. For each chapter of assigned reading, students are required to complete an **online quiz on ulearn** by the deadline listed in the course schedule. Chapter quizzes are always **due before class** starts on the day the reading is due. There is no limit on the number of times a student may take a given chapter quiz. Students

may refer to their notes and the textbook(s) when completing the chapter quizzes. Students may not work with each other or seek outside collaboration. There are no make-ups for these quizzes

Each student's top fifteen quizzes will be counted. Each quiz will be worth 10 points, for a total of 150 points.

Online Workshops. Through the **textbook companion sites**, students can access a series of interactive online workshops on various topics in both psychological statistics and research methods. **A link is also posted on uLearn.**

At the end of each interactive online workshop, students are required to complete a quiz over the workshop material and **send the results to their GLA via email** by the deadline listed in the course schedule below. There is no limit on the number of times a student may take a given workshop quiz before submitting his/her results. Any results submitted after the scheduled deadline will not be accepted. All workshop quizzes are due by **5:00pm on the Friday** of the week.

Students may take notes while completing the workshops and use their notes while taking the workshop quizzes. Students may NOT work with each other or seek outside collaboration on these quizzes. There are no make-ups for these workshops.

Each student's top fifteen workshops will be counted. Each workshop is worth ten points, for a total of 150 points.

Summary Project. At the end of the semester, a project will be assigned in which all of the information given in the semester will be summarized. More information will be given on this project towards the end of the semester.

This project will be due at the start of class on **Tuesday, April 17th**. The project will be worth 50 points.

Learning Assessment Cont.

Application Tests. There is an application test every other week, for a total of seven tests over the semester. Each test will focus on lecture material, the readings, and the activities covered since the last application test. These tests are intended to assess active understanding (i.e., application, evaluation, and interpretation) and may involve computations, multiple-choice, short answer, fill-in-the-blank, and essay questions.

Of the seven tests given, the student's **five best scores will be counted** toward the final course grade. Each test will be worth 100 points, for a total of 500 points. There are NO make-up tests because of the dropped grades. Any missed test is worth 0 points.

Unlike chapter and workshop quizzes, **application tests are closed book and closed notes**. Students can use the calculator application on the lab computers for any calculations. All scratch paper, statistical formulas, and numerical tables necessary to complete each test will be provided. Students are responsible for **bringing their own writing utensils**.

IMPORTANT: **Application tests are administered on Wednesdays, Thursdays, and Fridays, under the supervision of a GLA. Testing sessions are one hour long, with 50 minutes allowed for completing a given test. Students must

sign up for a scheduled test time using SONA (see Required Technology). Students must sign up for a testing slot on SONA at least **2 hours** before they plan to come. There are **no walk-in testing hours**. You must only sign up for one timeslot and you may not reschedule an application test for which you have previously “no showed.”**

Canceling your test time must be done on SONA at least **2 hours in advance**. Any cancellations completed after this deadline, this will count as a “no show” or missed test. Make-up tests are not allowed, so students should strictly adhere to the 2-hour policy.

Final exam. The final exam is cumulative and administered in a similar testing environment to the application tests. The final exam will include computations, fill-in-the-blank, short answer, and multiple-choice questions. Students will have two hours to complete the final exam. **Scheduling for the final exam will be done through SONA.** This final will be worth 150 points.

Grading

The final course grade will be calculated using the scores from the workshop quizzes, chapter quizzes, papers, application tests, and final exam, with the following breakdown:

Assignment	Points Possible
15 Chapter Quizzes	150 (15%)
15 Workshop Quizzes	150 (15%)
Summary Project	50 (5%)
5 Application Tests	500 (50%)
Final Exam	150 (15%)
Total	1000
Final Grade Distribution	
Points Earned	Letter Grade
1000-965	A ⁺
964-925	A
924-900	A-
899-865	B ⁺
864-825	B
824-800	B-
799-765	C ⁺
764-725	C
724-700	C-
699-600	D
599-0	F

NOTE: All grading will be rounded to the nearest integer. As such, a score of 89.5 is rounded *up* to a 90, whereas a score of 89.4 is an 89.

Grading Cont.

OPTING OUT OF FINAL EXAM: If a student has received a 90% or better on all 7 application tests, the student may choose to not take the final exam and have their grade calculated without it. In this case, the final grade will be calculated on the following scale. The student will not have the option of receiving an A+ for the course.

Points Earned	Letter Grade
800-740	A
739-720	A-

Grading Issues. Any student who has an issue with the grading for a particular assignment has **one week after the graded assignment is returned** to meet with the instructor and request a grade review. All reviews must be completed with the original work, no copies will be accepted. It is the responsibility of the student to provide the original if it has been handed back from the instructor. **NO EXCEPTIONS will be made to the grading policy outlined above.**

Late Registration. Anyone who registers for the course after the first day of class will have **one week to complete any missed assignments.** Assignments will not be accepted after that date.

Skills Quiz: To assess student learning throughout the course, all students will take a quiz at the beginning of the semester and at the end of the semester. **The first quiz must be taken on uLearn to gain access to course materials and the second quiz must be taken by the due date listed in the syllabus in order to receive a final grade for the course.** If the second quiz is not completed, you may receive an incomplete in the course until it is done.

Extra Credit: The ONLY extra credit offered in this course is based on the number of in class assignments attempted. One point will be added to the 1,000 possible points for each in class assignment turned in, for a possibility of ten points.

Tutoring Centers

Psychology Department Stats/Methods and Writing Centers

The psychology department has two tutoring centers in 228 Kell, open only to students taking psychology courses. You may schedule appointments to last between 30 and 60 minutes. To make appointments, go to <https://gsu.accudemia.net/>, and log in with your student ID number (your password is also your student ID number). Please see ULearn for more detailed instructions.

At the Stats/Methods Center you can get help with statistics, methods, and reading primary articles. If you go to get help reading primary articles, please be aware that it takes at least a few hours to thoroughly read an article. The tutor will skim the article and do the best possible job within the time limit, but it is your responsibility to double-check the work.

At the Writing Center you can get help with any aspect of writing, including APA style. When you go to the writing center take a hard copy of the assignment instructions and of your writing. Please note that you should not go to the writing center to get help interpreting instructions or my feedback; see me if you have questions about that. The writing center's website has detailed information about what to expect from a session and how to improve different aspects of your writing:

<http://www2.gsu.edu/~wwwpsy/8342.html>

General Attendance. It is critical that you attend class regularly in order to master the course material. Class lectures and information from your text will supplement each other but will NOT overlap completely. You are expected to attend class, arrive on time, and leave only when dismissed. If you are unable to attend a class, it is your responsibility to

Attendance

get notes from another student. You are responsible for course content and assignments covered in class, as well as any announcements made. If you miss class, be sure to check uLearn. **Students who demonstrate a pattern of late arrival or early departure from class will be considered in violation of the Board of Regents Policy on Disruptive Behavior (see the *Classroom Behavior* section, below).** If you know in advance that you will be absent, have to leave early, or come in late, please notify me. It is best that you do this in person and on uLearn.

Veterans' Attendance. The Department of Veterans Affairs requires that institutions of higher learning immediately report to them when a student discontinues attendance. Veterans who are receiving benefits to fund their education will be reported to the DVA if they do not attend class for a period of two weeks or more.

Academic Honesty

“For a full explanation of academic dishonesty, see the GSU student code of conduct at: <http://www2.gsu.edu/~wwwdos/codeofconduct.html>

The most common types of academic dishonesty are plagiarism, cheating on assessments, and unauthorized collaboration.

GSU Department of Psychology Definition of Plagiarism

If a student uses or relies on others' work in preparing any academic materials (e.g. written assignments, posters, presentations) the student must cite the source correctly according to the directions provided by the instructor. Failure to do so is plagiarism.

Copying and pasting even part of a sentence or phrase is plagiarism, even when the source is cited correctly. Paraphrasing a source in a way that copies the phrase or sentence structure of a source is also plagiarism. To avoid plagiarism, students are expected to properly paraphrase others' ideas.

Quotes in scientific writing should only be used when the wording of the original source is critical to the student's argument. Whether quoting is appropriate in a given instance is at the discretion of the instructor, not the student.

Cheating and Unauthorized Collaboration

Cheating includes the use or sharing of any unauthorized materials and/or assistance before, during, or after an assessment (e.g. exams, tests, quizzes). Unless otherwise specified by your instructor, you may not discuss an assessment or share materials or information with any other student at any time.

Unauthorized collaboration occurs under the same circumstances as cheating, but involves assignments outside of the classroom (e.g. papers, projects, presentations) rather than assessments.” All members of the University community, including students, faculty, and staff, are expected to report violations of academic conduct to the appropriate authorities.

Failure to report academic misconduct of which you are aware reflects complicity with the misconduct. Such complicity may also result in an academic and/or disciplinary penalty.

Classroom Behavior

General Courtesy. All members of the class are expected to treat each other in a respectful, civil manner. Students who exhibit behaviors that I consider obstructive or disruptive to the class or its learning activities will be treated according to the Board of Regents Policy on Disruptive Behavior. Disruptive students will first receive a verbal warning. Continued violations will result in the student being removed from the classroom, a meeting with the Chair of the Department of Psychology, and finally formal

disciplinary action at the University level. Any student who engages in disruptive behavior may be assessed point deductions from the final grade or administratively withdrawn from the course.

Cell Phones/Pagers/Etc. According to the university's official policy on disruption (http://www2.gsu.edu/%7Ewwwdos/codeofconduct_adminpol_a.html)

“Students are required to turn off or set on silent mode all mobile phones, pagers and like devices while in class or in other instructional University environments. Students shall not allow their personal electronic communication devices to ring or beep during or otherwise disrupt scheduled University instructional activities. Making or receiving phone calls or pages while in class or other University instructional environments is prohibited.” This includes having the phone set to buzz or vibrate.

Disruptive students will first receive a verbal warning. Continued violations will result in the student being removed from the classroom, a meeting with the Chair of the Department of Psychology, and finally formal disciplinary action at the University level. If circumstances beyond your control require that you be available to receive a phone call or page during class (e.g., your child is ill), please notify me *before class*. **Use of phones or messaging devices during a test is considered a violation of academic honesty and will result in an automatic zero on that exam.**

Disabling Conditions

Georgia State University complies with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought.

Any student who has a documented disabling condition that requires accommodations in this class or on assignments must provide the **appropriate documentation** from the Office of Disabled Student Services **by the end of the first week of class**. If your condition is identified during the semester, please see me as soon as possible after you have received the relevant supporting documentation so we can make arrangements to accommodate you for the remainder of the term. You will not be able to make-up any assignments prior to providing your documentation.

Contacting Me

I encourage you to come see me during office hours or to schedule an appointment if you are having difficulty with the course material, want to clarify any points made in lecture or the textbook, or just want to talk about the class or school in general.

Brief, quicker questions can always be answered via e-mail (SDietz2@student.gsu.edu). I will try to answer e-mails sent by 5pm on weekdays (MTWTF) on the same day. E-mails sent after 5pm on Friday may not be checked until Monday morning.

Course Schedule

The course syllabus provides a general plan for the course; deviations may be necessary. Although I reserve the right to make changes to this schedule, the following provides a framework for what material will be covered during the course. Changes to this calendar will be announced in class and/or on the uLearn site for this course; you are responsible for knowing the content of these announcements. ***Reading and accompanying chapter quizzes should be completed BEFORE class on the dates listed below.***

Topic		Chapter Quizzes: Due before class	Online Workshops: Due by 5pm	Test Schedule
Introduction to Methods and Statistics: RM 1; RM 3; ST 1	1/10/2012			
	1/12/2012			
	1/13/2012	RM 1	What is Science (RM)	
	1/17/2012	RM 3; RM 4; ST 1		
	1/19/2012			Test 1- No Class
	1/20/2012		Specifying Constructs (RM); Effective Debriefing (RM); Operational Definitions (RM)	Test 1 DUE
Selecting Participants: RM 5; ST 6 (134-139); Research Strategies and Validity: RM 6	1/24/2012			
	1/26/2012	RM 5; ST 6		
	1/27/2012	RM 6	Sampling Methods (RM); Reliability and Validity (RM); Confounds - Threats to validity (RM)	
Descriptive Research: RM 13	1/31/2012	RM 13		
	2/2/2012			Test 2 - No Class
	2/3/2012		Nonexperimental Approaches (RM); Surveys (RM)	Test 2 DUE
Frequency Distributions	2/7/2012	ST 2		

Hypothesis Testing	2/9/2012			
	2/10/2012		Hypothesis Testing (ST)	
Chi Square: ST 16	2/14/2012	ST 16		
	2/16/2012			Test 3 - No Class
	2/17/2012		Chi Square (ST)	Test 3 DUE
Central Tendency and Variability: ST 3; ST 4	2/21/2012	ST 3		
	2/23/2012	ST 4		
	2/24/2012		Central Tendency and Variability (ST)	
Spring Break: No class	2/28/2012			
	3/1/2012			
	3/2/2012			
Normal Curve: ST 5	3/6/2012	ST 5.1		
	3/8/2012			Test 4 - No Class
	3/9/2012			Test 4 DUE
z-Distribution Probability: ST 6	3/13/2012	ST 5.2		
	3/15/2012	ST 6		
	3/16/2012		z-Scores (ST)	
Distribution of Sample Means: ST 7; ST 8	3/20/2012	ST 7; ST 8		
	3/22/2012			Test 5 - No Class
	3/23/2012		Standard Error (ST); Sampling Distributions (ST); Central Limit Theorem (ST)	Test 5 DUE

Correlational Research: RM 12	3/27/2012	RM 12		
Correlation: ST 15	3/29/2012	ST 15		
	3/30/2012		Correlation (ST); Bivariate Scatterplots (ST)	
Regression: ST 15	4/3/2012			
	4/5/2012			Test 6 - No Class
	4/6/2012			Test 6 DUE
Experimental Methods: RM 7.1; RM 7.2	4/10/2012	RM 7		
Single Sample t-Test: ST 9	4/12/2012	ST 9		
	4/13/2012		Experimental Methods (RM); Single Sample t-Tests (ST)	
Review Day	4/17/2012		Final Project Due	
	4/19/2012			Test 7 - No Class
	4/20/2012			Test 7 DUE
Final Exam	TBA			FINAL DUE