PSYC 2443-001   **Research Design and Statistics I**   **Spring 2012**

Lecture:

Instructors: Dr. Daniel Levine

Class room: 100 LS = Life Science (Lecture); 318 LS (Lab)

Class hours: MW 3-4:20

Tutoring: LS 318; hours Monday: 1pm - 3pm, 4:30pm - 6:30pm;

Tuesday: 2pm - 4:30pm; Wednesday: 1pm - 3pm

Contact information for Dr. Levine

Email: levine@uta.edu (See also Blackboard)

Office: 414 LS

Office phone: 817.272.3598

Office hours: MTWTh 2-3 or by appointment

Campus mailbox: Box 19528

Lab: Two (2) lab sections are available. You must be registered in lecture (PSYC 2443-001 and a lab section (PSYC 2443-002 or 003) concurrently. 2443-002 is Thursday 5:30-7:20PM with Yanfei Liu (yanfei.liu@mavs.uta.edu). 2443-003 is Friday 11:00AM-12:50PM with Catherine Spann (catherine.spann@mavs.uta.edu). **Office hours for lab instructors**: Yanfei Liu (Room 407), Tuesday 3:30-5:00PM and Thursday 4:30-5:30PM. Catherine Spann (Room 409), Thursday 2-3PM and Fridays 9:30-11AM.

<u>**Required texts and course materials:**</u> (Note: Retain these texts for PSYC 2444 and advanced electives.)

- There is a customized set of texts for this course, bundled together to save you money. The main Jackson text is ISBN-13 978-1-133-23361-9. There are 3 items in the bundle: Jackson/Mitchell/Jolley/Levine (2012). *Research methods and statistics: A critical thinking approach* (customized edition). Belmont, CA: Thomson Wadsworth and Jackson *Statistical Tables* and Szuchman (2008) *Writing with Style: APA Style Made Easy with InfoTrac*

- American Psychological Association (2001). *Publication Manual of the American Psychological Association* (5th edition). Washington, D.C.: APA. (ISBN: 1-557-98791-2)

- A non-programmable calculator and

- a 3 inch, 3-ring binder (minimum)

- **CPS Class Registration and response pad**: You **MUST** be registered with einstruction.com by about February 8, 2012. If you are NOT registered for class, you will **NOT** be able to participate in attendance, class discussions, and sample test questions until you register (which will adversely affect your grade). **NO EXCEPTIONS**! It is recommended that you register with e-instruction prior to the start of the fall semester (i.e., as soon as you register for the class). You can begin registration on www.einstruction.com at any time. Use **Class Key: F708321656.** You will need to pay the full registration fee via credit card to register with e-instruction for the class. You MUST bring the response pad with you to class every class period. The response pad is a *mandatory* piece of course equipment; it will be used for discussion questions. Not bringing a response pad to class will *NOT* be an acceptable excuse. This course will be computer/internet

intensive. You do not need to own a computer to participate effectively in the class. However, you will need to access and use the computers available to you on campus (e.g., in the library) on a routine basis.

Recommended (optional) resources:
- www.apastyle.org (but note that the 2001 Publication Manual will be used for all grading)
- Huff, D. (1982). *How to lie with statistics.* W. W. Norton & Co., New York, New York. (ISBN: 0-393-09426-X)
- Jones, G. E. (1995). *How to lie with charts.* SYBEX Inc., San Francisco, CA. (ISBN: 0-7821-1723-6)
- Siegal, A. M., and Connolly, W. G. The New York Times Manual of Style and Usage (1999). Three Rivers Press, New York (ISBN: 0-8129-6389-X)
- See the publisher's Web site for workshops at
http://www.wadsworth.com/psychology_d/templates/student_resources/workshops/index.html

Course description: PSYC 2443. RESEARCH DESIGN AND STATISTICS I (3-2) 4 hours credit. Theoretical and practical approaches to research methodology, statistical analyses and reporting of research. Prerequisites: PSYC 1315, MATH 1302 (or equivalent), ENGL 1302 and completion of the computer competency requirement.

A note on prerequisites: To perform well in this class, you will need to have fulfilled your computer competency requirements as well as your Mathematics and English composition courses. PSYC 2443 is writing and "information- intensive".

Course goals: This course consists of learning a variety of methods and procedures commonly used to conduct psychological research, analyzing the data collected in such research, and communicating the research results to the scientific community. Specific goals as outlined in the **APA Assessment Cyberguide** are appended to this syllabus. Learning objectives for each module can be found on the lecture and lab schedule.

Assignments and exams:
Lecture: In-class exercises will be scheduled throughout the term. Three non-cumulative multiple choice exams (60-70 questions each for a total of 200 points) will be used to determine your performance in lecture. Exam questions will be drawn from required reading, lecture material and class activities. If you are tardy on the day of the exam you will not be permitted to take the exam if any class member has completed the exam and left the room. All make-up exams will be given during the last lecture week of the course. (See the **lecture schedule** for exam dates.)

Lab: Quizzes, research papers, experiment participation and other assignments will be scheduled throughout the term. Unless otherwise instructed, all assignments must be typewritten and in compliance with APA formatting. (See the **lab schedule** for further details.) In order to understand research from the participant's point of view, you will be required to participate in two experimental protocols (5 points each); if you elect <u>not</u> to participate, you will be able to submit two research article reports (5 points each.) (Please see the Handout: Introduction of Psychology Research

Requirement.) The portfolio requirements are described in detail in the Portfolio section of the syllabus. If a portfolio is received after the due date you will receive an incomplete (grade of I) for the course.

Attendance:
Lecture: Regular attendance is expected. Students will be required to sign in when they come to lecture. Attendance will be recorded: *10 points will be deducted from the lecture grade for the 5th unexcused absence and 2 points per lecture for unexcused absences beyond the 5th*. Absences that generally meet faculty standards include: severe illness; death in the immediate family; court appearances; and traffic delays that are unavoidable.

Absentees will not be provided with lecture notes, outlines or other materials from classes missed. No make up exam will be given unless documentation is received for a University-approved absence.

Lab: Lab attendance is *mandatory*. Students arriving more than 10 minutes late to lab will be counted as absent. *Five points will be deducted for each unexcused absence from lab.*

Make-up work: Make-up assignments and exams will be granted only for University-approved, documented absences.

Extra credit: No extra credit assignments will be offered during this course.

Grading: You will receive one course grade for your combined performance in the lecture and laboratory. A total of 400 points—200 from lecture and 200 from lab—reflect a perfect score or 100%. We will be using embedded assessment techniques throughout the course for 2 major evaluation projects and the portfolio:
Project 1: Deconstructing the research article (15 points)
Project 2: Constructing the manuscript (35 points)
Project 3: The portfolio (20 points)
Examples of the rubrics we will use for scoring are given on WebCT. Five points/day (i.e. each 24-hour period) will be deducted from your final score for any project that is received late.

Students must receive a passing grade (a "C") in both lecture (139 points out of 200 possible points or 69.5%) and lab (139 points out of 200 possible points) to pass the course and become eligible to enroll in PSYC 2444. Any student earning a "D" (119-138 points out of 200) or "F" (0-118 points out of 200) in the lecture OR in the lab will receive a "D" or "F" as the final course grade. (Please note that the last day to withdraw from this course is November 3.) Students who meet the minimum requirements of 139 points in BOTH lecture and lab will have their final course grades calculated by adding their lecture and lab points together and assigning final letter grades as follows:

Letter Grade	Percentage of Points	Points required
A	89.5-100.0%	358-400
B	79.5-89.4%	318-357
C	69.5-79.4%	278-317

Important dates:

February 1:	Census Date
March 12-16:	Spring break
March 30:	Last day to drop course
May 4:	Last class day for the University (Note: All portfolio reviews must be completed by this date; see week 15)

Student Support Services:

- **Computers** in LS 318 are available for your use on weekdays 8 am-5 pm when classes are not being held in that room.
- **Library information** can be obtained through Helen Hough, Psychology Librarian. Please contact her by phone (817.272.7429) or by email (hough@uta.edu). You will find useful information for psychology at http://ww.uta.edu/library/research/rt-psyc.html
- **Other** services can be obtained from the University. The University supports a variety of student success programs to help you: learning assistance, developmental education, advising and mentoring, admission and transition, and information about federally funded programs. Students seeking assistance with academic, personal or social problems should contact the Office of Student Success Programs at 817.272.6107.

Drop for non-payment of tuition: If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office. You may not continue to attend class until your Enrollment Loan has been applied to outstanding tuition fees.

Academic dishonesty: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. Any form of academic dishonesty will be reported. *"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that is attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."* (Regents' Rules and Regulations, Part One, chapter VI, Section 3, Subsection 3.2, Subdivision 3.22.) All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation, reference to Public Law 93112—The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled, Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens. As required by law, we will provide reasonable accommodations to students with disabilities, so as not to discriminate on the basis of that disability. However, the student is responsible for informing faculty at the beginning of the semester of a disability requiring special accommodation and providing authorized documentation through designated administrative channels.

Bomb threats: If anyone is tempted to call in a bomb threat, be aware that UTA will attempt to trace the phone call and prosecute all responsible parties. Every effort will be made to avoid cancellation of presentations or tests caused by the bomb threat. Alternate sites will be available for these classes. Your instructor will make you aware of alternate class sites in the event that your classroom is not available.

<u>**Important notes:**</u> **Review: Lab attendance is very, very important. You must attend every lab meeting. The information you receive in the lab sections is necessary to aid you in writing papers and doing homework assignments. The information obtained will carry over from the first semester into the second semester. Lab attendance is crucial.**
1. Assignments are due at the beginning of lab within the first 10 minutes of lab.
2. If you are more than 10 minutes late, you will be counted as absent.
3. Five points/day (i.e. each 24-hour period) will be deducted from your final score for any project that is received late.

		PSYC 2443	**Lecture Schedule**			**Lab Schedule**	
Wk	Date	Lecture Topic	Instructor	Reading Assignments	Date:	Lab Exercises	Assignment Due
1	W1/18	Course overview Thinking like a scientist Ethics	Levine	Jackson Ch. 1 and 2		Using Blackboard Overview: Research compliance, IRB & IACUC; IRB protocol	
		Pre-testing for exp participation Start on descriptive statistics	Levine				
2	M 1/23	Using the library Frequency distributions				Library assignment 1: Becoming familiar with the library Library assignment 2: Search exercise Overview: Using Excel Demonstration: Frequency distributions	Complete online pretesting on SONA Jackson Chapter 1 exercises (TBA) (5 pts.) Quiz on IRB & protocol (10 pts.)
	W 1/25		Levine Hough	Review the library CD SPSS Ch 1-6 Jackson Ch. 2			
3	M 1/30	Frequency distributions Measures of central tendency	Levine	Jackson Ch. 2 and 5		Exercise: Computing means, medians, & modes Exercise: Understanding measures of variation Assignment: Deconstructing the research article Using Excel: Bar graphs	Jackson Chapter 2 exercises (TBA) (5pts.) Library assignment 1 & 2 (10 pts. total)
	W 2/1	Measures of central tendency Measures of variation	Levine	Jackson Ch. 5			
4	M 2/6	Normal distribution z-scores	Levine	Jackson Ch. 5		Method section; read, replicate Exercise: Observation & measurement	Jackson Chapter 5 exercises (TBA) (10 pts.) Draft due: Deconstructing the research article
	W 2/8	Ways of knowing, measuring Observational methods Scales of measurement		Jackson Ch. 3 and 4			
5	M 2/13	Review for Exam #1	Levine			EXAM #1 (PART 2 = WORD PROBLEMS) Library assignment 3: Psychology careers Overview: Results section	Jackson Chapter 3 & 4 exercises (10 pts.) Interim portfolio review 1 Complete research participation 1 (5 pts.)
	W 2/15	EXAM #1 (PART 1 = MC)	Levine				

Learning Objectives for Module I. At the end of this module, students should be able to:
1. Describe areas of psychological research and the differences between basic and applied research; research conducted in naturalistic and laboratory settings
2. Identify and compare descriptive and predictive methods as well as the explanatory method
3. Describe ethical standards for research using human participants and animal subjects
4. Use resources in the library to locate and confirm information
5. Explain the following concepts: scales of measurement, reliability, validity, operational definitions
6. Compute standard scores and measures of central tendency and variation

Wk	Date	Lecture Topic	Instructor	Reading Assignments	Date:	Lab Exercises	Assignment Due
6	M 2/20	Review of Exam #1/Wild card	Levine			Results section: stat and graph presentation Overview: Helping behavior (e.g. door holding) experiment	Quiz 1 on current lecture material (10 pts.) Library assignment 3 (5 pts.)
	W 2/22	Probability		Jackson Ch. 7, pp. 172-183			
7	M 2/27	Binomial distribution	Levine	Jackson Ch. 5, pp. 146-A to 146-F SPSS Ch. 14 & 15		Exercise: How binomial distributions approximate normal distribution About data collection and management: Helping behavior experiment	Jackson Chapter 5 exercises (TBA) (5 pts.) Deconstructing the research article (15 pts.)
	W 2/29	Correlation & prediction Correlation & regression Designs		Jackson Ch. 6			
8	M 3/5	Correlation	Levine	Jackson Ch. 6 SPSS Ch. 14		Overview: Using SPSS Computing correlations and inter-rater reliabilities Graphing regression lines	Jackson Chapter 6 exercises (TBA) (5 pts.) Data summary from experiment
	W 3/7	Regression		Jackson Ch. 6 SPSS Ch. 15		Assignment: Constructing the manuscript Excel: Scatterplots	
9	M 3/19	Scales of measurement review	Levine	Jackson Ch. 3		Introduction section: read and check citations Library assignment 4: Checking citations from the literature	Jackson Chapter 6 exercises (TBA) (5 pts.) Jackson Chapter 3 exercise (TBA) (5 pts.) Quiz2 on current lecture material (10 pts.) First Draft of Manuscript Due
	W 3/21	Review for Exam #2					
10	M 3/26	EXAM # 2 (PART 1 = MC)	Levine			EXAM #2 (PART 2 = WORD PROBLEMS)	Quiz: References check (5 pts.) Complete research participation 2 (5 pts.) Interim portfolio review 2
	W 3/28	Review of Exam #2 Review Sampling distribution z scores		Jackson Ch. 7		Exercise: Understanding standard scores	

Learning Objectives for Module 2. At the end of this module, students should be able to:

(1) Identify various distributions, then organize and manage data in frequency and class interval distributions
(2) Discuss the strengths of correlations and interpret scatterplots
(3) Differentiate between probability and nonprobability sampling and the various subtypes of sampling
(4) Organize and manage data in frequency and class interval distributions
(5) Calculate correlation coefficients and perform analyses on various types of regression curves

Wk	Date	Lecture Topic	Instructor	Reading Assignments	Date:	Lab Topic	Assignment Due
11	M 4/2	Chi-square tests Wilcoxon's test	Levine	Jackson Ch. 13 SPSS Ch. 17		Review of helping behavior experiment Using Chi-square and Wilcoxon's tests Discussion section: read and revise	Library assignment 4 (5 pts.) Second Draft of Manuscript Due
	W 4/4	Reliability & validity		Jackson Ch. 3			
12	M 4/9	Hypothesis testing I	Levine	Jackson Ch. 7 SPSS Ch. 7		Hypothesis testing; Results section; 1 and 2-tailed tests Demonstration: Understanding power curves	Jackson Chapter 7 exercises (TBA) (5 pts.) Jackson Chapter 13 exercises (TBA) (5 pts.)
	W 4/11	Power and effect size Confidence intervals		Jackson Ch. 7			
13	M 4/16	Hypothesis testing II	Levine	Jackson Ch. 7 review		Hypothesis testing; Review for Exam 3	Constructing the manuscript (35 pts.)
	W 4/18	Portfolio assembly Review for Exam # 3					
14	M 4/23	EXAM # 3 (PART 1 =MC)	Levine			Exam #3 (part 2 = word problems) Abstract and key words: read and revise	Jackson Chapter 7 exercises (TBA) (5 pts.) Portfolios due (20 pts.)
	W 4/25	Go over Exam #3					

15	M 5/2 through F 5//6	Learning Objectives for Module 3. At the end of this module, students should be able to:
		    (1) Explain how Type I and Type II errors are related to hypothesis testing
		    (2) Explain what statistical power is and how to make statistical tests more powerful
		    (3) Differentiate between parametric and nonparametric statistics
		    (4) Calculate and interpret Chi-square and Wilcoxon's rank-sum tests
		    (5) Use SPSS software to test for statistical significance
		N.B. Learning objectives were adapted from Jackson, S. L. (2006). *Study guide for research methods and statistics* (2nd edition).
		
		Notes: No lectures will be given on 4/28 and 4/30. Instead, all makeup exams will be given during class time
		Portfolio reviews (held in 318LS) will take place all week by appointment					

Instructors: Daniel Levine, Ph.D. (levine@uta.edu)

Excerpted from "The 100-Year Journey of Educational Psychology: From Interest, to Disdain, to Respect for Practice" by David C. Berliner (Arizona State University):

> *Clearly, William James would approve of the portfolio assessment movement of our times and support the ways in which Howard Gardner and Robert Sternberg have broadened our conceptions of intelligence. James consistently held a holistic view of human beings, and he understood the important distinction between the real world on the one hand and both laboratory and school tasks on the other. Despite his private comments about the pedestrian minds of teachers, he put faith in the classroom teacher to guide the young to acquire proper habits. In so doing he rejected those who saw the mission of the school as curriculum bound, with the teacher there merely to impart facts (Bowen, 1981). James also rejected the view that science could provide much advice to teachers about what to do in concrete situations. He did, however, see the study of psychology as useful in three ways: to provide the underpinnings for beliefs about instruction, to prohibit teachers from making certain egregious errors, and to provide intellectual support to teachers for some of their pedagogical decisions.*

According to **APA's Assessment Cyberguide for Learning Goals and Outcomes,** portfolios have a strong potential for achieving certain learning outcomes: "Explicit criteria that ask students to select "works" based on what these reveal about their research skills can provide an opportunity to evaluate the evolution of their abilities through a focused reflection on why they selected the items they did." This point is an important one when we consider your choice of an individual research project.

Q. What is a portfolio?

A. A portfolio is a collection of papers, projects, and assignments completed in classes required in the psychology major. For the student, the portfolio represents a record of development in skills and
competencies required in the major. It also represents a record of   accomplishments which can be used to support applications for employment and   graduate school. For the faculty, the portfolio is a source of information to determine whether the goals of the psychology curriculum are being attained.

Q. What is the purpose of keeping a portfolio?

A. A course portfolio serves primarily 3 functions:

1. A portfolio is an opportunity to integrate your notes, the text, lab assignments and other material, therefore providing an effective **study method**. Thus, you may reinforce and further develop your writing and computer skills. You are expected to retain at least information from earlier courses to later courses. In fact, by obtaining a GPA of 2.0 in PSYC 2443 and 2444, you can be cleared to enroll in upper-level laboratory courses. A course portfolio may be a very valuable resource for your future coursework.

2. A portfolio stands as an **historical record** or documentation summary of some of the content that you learned in the course. This record may help you obtain admission to the graduate program of your choice in that it may help you to write your personal statement or essay for graduate admission. It may also help you convince a potential employer of your readiness for a particular job.

3. Portfolio preparation may help you to **know yourself better** and to define more clearly your personal and professional goals. Part of your portfolio will consist of reflective journaling, that is, writing down your ideas and reactions to assignments and evaluations. Except for weeks in which exams occur, we expect you to make notes weekly. Weekly notations should be made on your reflections upon your experiences as a pre-professional. Obviously, such reflective thinking may assist you in defining your strengths, weaknesses and career aspirations.

Q. How will my portfolio be evaluated?

A. The rubric we will be using to evaluate the portfolio is provided below. You will receive the final grade you attained on this assignment but interim grades (see **1** and **2** below) will be provided as the course proceeds.

Presentation of Portfolio (See also Week 15)   **--SAMPLE--**

Scoring level	Action	1	2	F
16-20-accomplished	Student maintained all assignments carefully and organized the portfolio well.			
11-15--competent	Student showed good effort toward organization and presentation of the portfolio.			
6-10--developing	Student's course portfolio was only fairly complete and reflective journaling was not done consistently.			
1-5--beginning	Student exhibited minimal attention to portfolio organization and presentation. Multiple assignments were omitted.			
0	(Incomplete)			

Additional comments:

        Score =   **/20**

Student certification: I have reviewed the above scores and comments with my instructor.

_____   _____
          Signature   Date

Adapted from **APA's Assessment Cyberguide for Learning Goals and Outcomes:**

In PSYC 2443 and 2444, we will be addressing multiple goals as outlined below by the American Psychological Association (APA).

KEY:

PRE	Prerequisites
LEC	PSYC 2443/2444 Lecture and readings
LAB	PSYC 2443/2444 Lab and readings
EXA	PSYC 2443/2444 Examinations
POR	PSYC 2443/2444 Portfolio

Goal 1: Knowledge Base of Psychology

Demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

Objective	PRE	LEC	LAB	EXA	POR
1.1: Characterize the nature of psychology as a discipline.	√	√	√	√	√
1.2: Demonstrate knowledge and understanding representing appropriate breadth and depth in selected content areas of psychology: theory and research representing general domains, the history of psychology, relevant levels of analysis, overarching themes, and relevant ethical issues.	√	√	√	√	√
1.3: Use the concepts, language, and major theories of the discipline to account for psychological phenomena.	√				
1.4: Explain major perspectives of psychology (e.g., behavioral, biological, cognitive, evolutionary, humanistic, psychodynamic, and sociocultural).	√				

Goal 2: Research Methods in Psychology

Understand and apply basic research methods in psychology, including research design, data analysis, and interpretation.

Objective	PRE	LEC	LAB	EXA	POR
2.1 Describe the basic characteristics of the science of psychology.	√	√	√	√	√
2.2 Explain different research methods used by psychologists. Describe how various research designs address different types of questions and hypotheses. Articulate strengths and limitations of various research designs. Distinguish the nature of designs that permit causal inferences from those that do not.		√	√	√	√
2.3 Evaluate the appropriateness of conclusions derived from psychological research. Interpret basic statistical results. Distinguish between statistical significance and practical significance. Describe effect size and confidence intervals.	√	√	√	√	√

Evaluate the validity of conclusions presented in research reports.				
2.4 Design and conduct basic studies to address psychological questions using appropriate research methods. Locate and use relevant databases, research, and theory to plan, conduct, and interpret results of research studies. Formulate testable research hypotheses, based on operational definitions of variables. Select and apply appropriate methods to maximize internal and external validity and reduce the plausibility of alternative explanations. Collect, analyze, interpret, and report data using appropriate statistical strategies to address different types of research questions and hypotheses. Recognize that theoretical and sociocultural contexts as well as personal biases may shape research questions, design, data collection, analysis, and interpretation.	√	√	√	√
2.5 Follow the APA Code of Ethics in the treatment of human and nonhuman participants in the design, data collection, interpretation, and reporting of psychological research.	√	√	√	√
2.6 Generalize research conclusions appropriately based on the parameters of particular research methods. Exercise caution in predicting behavior based on limitations of single studies. Recognize the limitations of applying normative conclusions to individuals. Acknowledge that research results may have unanticipated societal consequences. Recognize that individual differences and sociocultural contexts may influence the applicability of research findings.	√	√	√	√

Goal 3:   Critical Thinking Skills in Psychology

Respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.

Objective	PRE	LEC	LAB	EXA	POR
3.1 Use critical thinking effectively.	√	√	√	√	√
3.2 Engage in creative thinking.	√	√	√	√	√
3.3 Use reasoning to recognize, develop, defend, and criticize arguments and other persuasive appeals.	√	√	√	√	√
3.4 Approach problems effectively.	√	√	√	√	√

Goal 4:   Application of Psychology

Understand and apply psychological principles to personal, social, and organizational issues.

Objective	PRE	LEC	LAB	EXA	POR
4.1 Describe major applied areas of psychology (e.g., clinical, counseling, industrial/organizational, school, health).	√	√	√	√	√
4.2 Identify appropriate applications of psychology in solving problems, such as…	√	√	√	√	√
4.3 Articulate how psychological principles can be used to explain social issues and inform public policy.	√	√		√	
4.4 Apply psychological concepts, theories, and research findings as these relate to everyday life.	√	√	√	√	√
4.5 Recognize that ethically complex situations can develop in the application of psychological principles.	√	√	√	√	√

Goal 5:   Values in Psychology

Value empirical evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a science.

Objective	PRE	LEC	LAB	EXA	POR
5.1 Recognize the necessity for ethical behavior in all aspects of the science and practice of psychology.	√	√	√	√	√
5.2 Demonstrate reasonable skepticism and intellectual curiosity by asking questions about causes of behavior.	√	√	√	√	√
5.3 Seek and evaluate scientific evidence for psychological claims.	√	√	√	√	√
5.4 Tolerate ambiguity and realize that psychological explanations are often complex and tentative.	√	√	√	√	√
5.5 Recognize and respect human diversity and understand that psychological explanations may vary across populations and contexts.	√	√	√	√	√
5.6 Assess and justify their engagement with respect to civic, social, and global responsibilities.	√	√	√	√	√
5.7 Understand the limitations of their psychological knowledge and skills.	√	√	√	√	√

Goal 6:   Information and Technological Literacy

Demonstrate information competence and the ability to use computers and other technology for many purposes.

Objective	PRE	LEC	LAB	EXA	POR
6.1 Demonstrate information competence at each stage in the following process: formulating a researchable topic, choosing relevant and evaluating relevant resources, and reading and accurately summarizing scientific literature that can be supported by database search strategies	√	√	√	√	√
6.2 Use appropriate software to produce understandable reports of the psychological literature, methods, and statistical and qualitative analyses in APA or other appropriate style, including graphic representations of data.	√	√	√	√	√
6.3 Use information and technology ethically and responsibly.	√	√	√	√	√
6.4 Demonstrate basic computer skills, proper etiquette, and security safeguards.	√	√	√	√	√

Goal 7:   Communication Skills

Communicate effectively in a variety of formats.

Objective	PRE	LEC	LAB	EXA	POR
7.1 Demonstrate effective writing skills in various formats (e.g., essays, correspondence, technical papers, note taking) and for various purposes (e.g., informing, defending, explaining, persuading, arguing, teaching).	√	√	√	√	√
7.2 Demonstrate effective oral communication skills in various formats (e.g., group discussion, debate, lecture) and for various purposes (e.g., informing,. defending, explaining, persuading, arguing, teaching).	√		√		
7.3 Exhibit quantitative literacy.	√	√	√	√	√
7.4 Demonstrate effective interpersonal communication skills.	√	√	√		
7.5 Exhibit the ability to collaborate effectively.	√		√		√

Goal 8:   Sociocultural and International Awareness

Recognize, understand, and respect the complexity of sociocultural and international diversity.

Objective	PRE	LEC	LAB	EXA	POR
8.1 Interact effectively and sensitively with people from diverse backgrounds and cultural perspectives.	√	√	√	√	√
8.2 Examine the sociocultural and international contexts that influence individual differences.	√	√	√	√	√
8.3 Explain how individual differences influence beliefs, values, and interactions with others and vice versa.	√	√	√	√	√
8.4 Understand how privilege, power, and oppression may affect prejudice, discrimination, and inequity.	√	√			√
8.5 Recognize prejudicial attitudes and discriminatory behaviors that might exist in themselves and others.	√	√	√	√	√

Goal 9:   Personal Development

Develop insight into their own and other's behavior and mental processes and apply effective strategies for self-management and self-improvement.

Objective	PRE	LEC	LAB	EXA	POR
9.1 Reflect on their experiences and find meaning in them.	√				√
9.2 Apply psychological principles to promote personal development.	√				√
9.3 Enact self-management strategies that maximize healthy outcomes.	√				√
9.4 Display high standards of personal integrity with others.	√	√	√	√	√

Goal 10:   Career Planning and Development

Pursue realistic ideas about how to implement their psychological knowledge, skills, and values in occupational pursuits in a variety of settings.

Objective	PRE	LEC	LAB	EXA	POR
10.1 Apply knowledge of psychology (e.g., decision strategies, life span processes, psychological assessment, types of psychological careers) to formulating career choices.	√				√
10.2 Identify the types of academic experience and performance in psychology and other coursework that will facilitate entry into the work force, post-baccalaureate education, or both.	√	√			√
10.3 Describe preferred career paths based on accurate self-assessment of abilities, achievement, motivation, and work habits.	√				√
10.4 Identify and develop skills and experiences relevant to achieving selected career goals.	√	√	√	√	√
10.5 Demonstrate an understanding of the importance of lifelong learning and personal flexibility to sustain personal and professional development as the nature of work evolves.	√				√