

PSY –208: Experimental Psychology (3 CHs)

Pre-requisite: None

Course Description:

This course aims to introduce students to some of the concepts, procedures, and issues of the experimental method of studying human behavior and mental processes. Experimental research courses will allow to discover the causes of behavior, societal problems, and any phenomenon in various disciplines to focus on targeting those causes to develop intervention, treatments, and solution of those problems. Students will learn how to design and conduct experiments in the laboratory / field and randomized controlled trials in order to unfold the causes of various problems. They will be exposed to have first-hand experience of tapping causality and developing solutions of various problems conducting experimental research, which will strengthen their skills to draw causal inference. This course will provide the foundation for the later applied nature of research and for strengthen the skills of students to formulate solutions.

Course Objectives:

The course will facilitate students to:

- Learn how psychologists' study various psychological processes such as sensation, perception, cognition, learning, memory by designing and conducting experiments and naturalistic observations. These topics will be discussed and demonstrated in lectures and laboratory activities.
- Understand the fundamental principles and concepts of experimental research methods, key components of experimental design, including variables, hypotheses, and research questions.
- Develop students' skills in selecting appropriate experimental designs and controlling confounding variables.
- Practice hands-on experience in designing and conducting experiments, including data collection and analysis.
- Develop critical thinking skills in evaluating research studies and interpreting experimental findings.

- Realize ethical awareness and adherence to ethical guidelines in conducting experimental research.
- Enhance students' ability to communicate research findings effectively in written and oral formats.

Course Learning Outcomes:

By the end of courses students should be able to:

- Students will demonstrate an understanding of the fundamental principles and key concepts of experimental research methods.
- Students will be able to formulate research questions and hypotheses, identify independent and dependent variables, and operationalize variables effectively.
- Students will develop proficiency in selecting appropriate experimental designs and implementing strategies to control confounding variables.
- Students will gain practical experience in designing and conducting experiments, including data collection techniques and procedures.
- Students will be able to analyze and interpret experimental data using appropriate statistical techniques and evaluate the reliability and validity of research findings.
- Students will exhibit ethical awareness and adhere to ethical guidelines in experimental research, including participant recruitment and informed consent.
- Students will communicate research findings effectively through written research reports and oral presentations, demonstrating clear organization, logical reasoning, and appropriate use of terminology.

Course Contents:

- Introduction to Experimental Method as a way of scientific reasoning
- Difference between Correlation, Causation, and Frequency Research Claims
- Introduction and History of Experimental Method in Psychology
- Introduction to Simple Experiments
- Experimental Designs: Within and Between Subject Design

- True experiments, Quasi experiments and RCT's, Single N design, Factorial designs
- Confounding and Obscuring Variables threat to Internal Validity.
- Replication, Generalization, and Real World

Textbooks:

- Mandler, G. (2007). A History of Modern Experimental Psychology. A Bradford Book the MIT Press. Cambridge, Massachusetts.
- Kerri A. Goodwin, C. James Goodwin – (2017). Research in Psychology-Methods and Design-John Wiley & Sons.
- Peter Gray, David F Bjorklund – (2018). Psychology (8th Edition)-Worth Publishers One New York Plaza Suite 4500 New York, NY 10004-1562
- Gozli, D., & Valsiner, J. (Eds.). (2022). *Experimental Psychology: Ambitions and Possibilities*. Springer Nature.

Reference Books:

- David W. Martin. (2008). Doing Psychology Experiments-Wadsworth Publishing.
- Howitt, Dennis, Cramer Duncan (2016). - Introduction to research methods in psychology-Pearson.
- Beth Morling (2017). Research Methods in Psychology_ Evaluating a World of Information-W. W. Norton & Co.
- Meltzoff, Julian. *Critical Thinking About Research*. Washington, DC: American Psychological Association, 1998.