PSYC C280: INTRODUCTION TO RESEARCH METHODS IN PSYCHOLOGY

Item	Value
Curriculum Committee Approval Date	05/20/2005
Top Code	200100 - Psychology, General
Units	4 Total Units
Hours	108 Total Hours (Lecture Hours 54; Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Local General Education (GE)	• CL Option 1 Social Sciences (CD1)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 4 Social & Behavioral Sciences (4)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 4 Social&Behavioral Sci (4)
California State University General Education Breadth (CSU GE-Breadth)	• CSU D Soc Politic Econ Inst (D)

Course Description

Introduces students to psychological research methods and critical analysis techniques that may be applied to diverse research studies and issues. PREREQUISITE: PSYC C1000 and STAT C1000 with grades of C or better. ADVISORY: ENGL C1000. Transfer Credit: CSU; UC. C-ID: PSY 200.**C-ID:** PSY 200.

Course Level Student Learning Outcome(s)

1. Given research project guidelines, formulate a hypothesis, conduct a proper literature review, and conduct a basic study to address a psychological question using appropriate research methods.
2. Conduct and summarize a research study in a comprehensive research paper using proper APA style.

Course Objectives

- 1. Compare and contrast basic vs. applied research.
- 2. Use academic electronic resources to search for research abstracts and articles.
- 3. Write up conducted experiments in APA format.
- 4. Define and recognize independent and dependent variables.
- 5. Explain operational definitions and develop such definitions.
- 6. Compare, contrast, and explain positive linear, negative linear, and curvilinear relationships.
- 7. Explain and contrast the various sampling techniques used in research.
- 8. Explain the uses of observation and survey techniques.
- 9. Differentiate between internal and external validity.
- 10. Explain how to develop a well-controlled experiment and how to avoid confounding variables.
- 11. Compare and contrast independent group designs vs. repeated measure designs.
- 12. Differentiate between descriptive vs. inferential statistics.
- 13. Explain the difference between Type I and Type II errors and note how they relate to significance levels.
- 14. Explain the uses of the four scales of measurement.
- 15. Describe the assumptions and applications and interpret measures of central tendency, measures of variability, standard scores, t-test for independent groups, t-test for dependent groups, chi-square, and one-way analysis of variance.
- 16. Explain the various types of correlations and their applications and limitations.
- 17. Explain factorial designs, including main effects and interaction effects, and note how the number of independent variables and their levels influence the number of experimental groups.
- 18. Explain the major issues that affect generalization of results.
- 19. Explain the major ethical concerns that influence human and animal research.

Lecture Content

Introductory concepts in research Introduction to social research The logic and sequence of the scientific world. How research findings are shared within the scientific community How to find and interpret reports Ethical considerations in research Basics of the experimental design Types of variables Between, within, and mixed groups designs Correlational research True experiments versus ex post facto and other quasi experimental designs Internal validity versus external validity The literature of psychology Components of the published research report American Psychological Association report format guidelines Using the psychological abstracts The journal publication process Reading and interpreting journal articles Ethics of psychological research Issues in animal experimentation Participants rights Confidentiality and ethics with sensitive information The Institutional Review Board (IRB) Statistical concepts in research Statistical theory Probability and probability distributions Parametric and nonparametric distributions Descriptive versus inferential statistics The rationale of statistics Guidelines for choosing the appropriate statistical test Applying statistics Using compute programs to analyze data The more common statistical tests Presenting data: graphs, tables, electronic presentations, narrative Sampling methods and considerations Survey design, data collection approaches, and data analysis Measurement concepts Types of measures Measurement criteria: reliability, validity, standardization Approaches to establishing reliability and validity Establishing theoretical constructs; the nature and process of construct validity Various research methodologies Observational research Direct and indirect observational methods Recording behavior Measurement scales Time and place sampling Analysis of observational data Surveys Measures in survey research Approaches to sampling Survey research designs Analysis of survey research Experimental research designs Control and internal validity External validity Independent groups and repeated measures designs Analysis of experimental data Complex

research designs Manipulation of independent variables in the complex design Single case research Advantages and disadvantages of the case study Single case (N=1) experimental designs The ABAB Data analysis using the single case study Ethical issues in the single case study Quasi-experimental research designs and program evaluation Quasi-experiments versus true experiments The non-equivalent control group Interrupted time-series design Time-series with nonequivalent control Program evaluation-applied research

Lab Content

Completing of exercises demonstrating skill in online research tools of the Coastline Library. Finding and reading relevant research articles and completing assignments to identify critical information learned in the class such as naming the research method, identifying key variables such as independent vs. dependent variables, noting operational definitions, and noting the outcomes of the studies. Conducting experiments that require APA paper submissions. Reviewing the issues of appropriate use of statistical calculations, calculation of statistics, and interpretation of statistics. Using software to test hypotheses. Designing and conducting independent experimental projects, followed by collecting, analyzing, interpreting the data, and finally writing the APA research report.

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Lab (04)
- DE Live Online Lab (04S)
- DE Online Lab (04X)

Instructional Techniques

Instructors will utilize a variety of instructional techniques such as lecture format augmented by PowerPoint slides, computer-animated demonstrations, classroom demonstrations, guest speakers, and video programs. Learning strategies will include small group activities, case studies, individual student projects, web activities, and discussion board activities. Activities will include data analysis and interpretation. Instructors will provide written feedback on all laboratory exercises, papers, assignments, and tests. Instructors will provide verbal feedback to small discussion groups. Students will use textbook and other instructor-provided handouts. Instructors will provide review sheets for students to use in preparation for tests.

Reading Assignments

Reading from the assigned textbook, including the APA manual.

Writing Assignments

Finding and demonstrating understanding of the parts of juried psychology articles in the online library. Developing a satisfactory literature review with APA-style in-text citations. Developing a satisfactory APA References section in appropriate format and with correct citations. Critical analysis of statistical outcomes. A finished journal-style report in correct APA format that analyzes the students statistically-tested hypothesis. Correct responses to essay (or short answer essay) questions. Research-based group project.

Out-of-class Assignments

Library assignments associated with finding and evaluating research articles. Practice writing hypotheses and writing a final scientific hypothesis for their individual course project. Statistical labs associated with hypothesis testing. Interpreting and critical analysis of statistical outcomes. A 10-13 page APA-style research paper submitted in several drafts for instructor feedback and required revisions.

Demonstration of Critical Thinking

Objective examination questions covering text and lecture material. Short answer essay questions demonstrating critical thinking skills. Interpretation of statistical calculations and outcomes. Research reports written individually by students in the American Psychological Association format. Design and conduct a scientific experiment. Participate in small group, in-class discussions.

Required Writing, Problem Solving, Skills Demonstration

Statistical analysis of an experimental hypothesis is a requirement of this course. Research reports written individually by students in the American Psychological Association format. Objective examination questions covering text and lecture material. Short answer essay questions demonstrating critical thinking skills and covering text and lecture materials. Written interpretation of statistical calculations. Design and conduct an experiment as a final project. Participate in small group, in-class discussions. Participate in a research-based group project.

Eligible Disciplines

Psychology: Masters degree in psychology OR bachelors degree in psychology AND masters degree in counseling, sociology, statistics, neuroscience, or social work OR the equivalent. Masters degree required.

Textbooks Resources

1. Required Cozby, Paul; Bates, Scott. Methods in Behavioral Research, most recent ed. McGraw Hill, 2020 Rationale: - 2. Required Gravetter, F. J.; Forzano, L.B. Research Methods for the Behavioral Sciences, latest edition ed. Belmont: Cengage Learning, 2019 3. Required Pelham, B.W.; Blanton, H. Conducting Research in Psychology: Measuring the Weight of Smoke, latest edition ed. Sage, 2018

Manuals Resources

1. American Psychological Association. Publication Manual of the American Psychological Association, American Psychological Association , 01-01-2020

Other Resources

1. Coastline Library