

PSYC 10: RESEARCH METHODS & DESIGNS

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2023
Units:	5
Hours:	4 lecture, 3 laboratory per week (84 total per quarter)
Prerequisite:	PSYC 1 or 1H; and PSYC 7, SOC 7, MATH 10, or MATH 17.
Advisory:	ENGL 1A or 1AH; not open to students with credit in SOC 10.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Area IV: Social & Behavioral Sciences
Transferable:	CSU/UC
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Students will be able to identify specific methods used in sociological and psychological research.
- Students will be able to analyze research by differentiating claims, data, and findings

Description

Survey of the various quantitative and qualitative research methods. Emphasis on the research design, planning, experimental procedures, and the collection, analysis, interpretation, and reporting of data. Laboratory emphasis on group work, data entry, and analysis of data with statistical software.

Course Objectives

The student will be able to:

- Compare and contrast different types of research methods and designs
- Explain the basic principles of the scientific method
- Evaluate research studies
- Synthesize a body of research findings (literature review)
- Design a research project
- Explain the ethical treatment of human and animal participants in research
- Collect appropriate data and conduct analyses of the data using statistical software
- Interpret the results of these statistical analyses
- Communicate these research findings to others in written and oral formats

Course Content

- Introduction to research methods
 - Uses of research methods
 - The scientific approach
 - Goals of science
 - Basic and applied research
 - Hypotheses and predictions
 - Library research
 - Components of a research article
- Ethical research
 - APA ethical standards
 - Assessment of risks and benefits
 - Informed consent
 - Importance of debriefing
 - Institutional review boards (IRBs)
 - Researcher commitments
- Studying behavior
 - Operational definition of variables
 - Relationships between variables
 - Non-experimental versus experimental methods
 - Independent and dependent variables
 - Causality
- Measurement concepts
 - Reliability of measures
 - Construct validity of measures
 - Personality and individual differences
 - Reactivity of measures
 - Variables and measurement scales
- Observational methods
 - Quantitative and qualitative approaches
 - Ethnography
 - Field notes
 - Naturalistic observation
 - Participant observation
 - Systematic observation
 - Case studies
 - Archival research
- Survey research
 - Advantages and disadvantages of surveys
 - Constructing questions
 - Responses to questions
 - Administering surveys
 - Survey designs change over time
 - Sampling from a population
 - Sampling techniques
 - Reasons for convenience samples
- Experimental design
 - Confounding and internal validity
 - Assigning participants to experimental conditions
 - Independent groups design
 - Repeated measures design
 - Matched pairs design
- Conducting experiments

- i. Selecting research participants
- ii. Manipulating the independent variable
- iii. Measuring the dependent variable
- iv. Additional controls
- v. Communicating research to others
- i. Complex experimental designs
 - i. Increasing the number of levels of an independent variable
 - ii. Increasing the number of independent variables: factorial designs
- j. Single case, quasi-experimental, and developmental research
 - i. Single case experimental design
 - ii. Program evaluation
 - iii. Quasi-experimental design
 - iv. Developmental research designs
 - 1. Cross-sectional designs
 - 2. Longitudinal designs
 - 3. Cross-sequential designs
- k. Research results: description and correlation
 - i. Frequency distributions
 - ii. Descriptive statistics
 - iii. Graphing relationships
 - iv. Correlation coefficients
 - v. Effect size
 - vi. Statistical significance
 - vii. Regression
 - viii. Multiple correlation, partial correlation
 - ix. Structural equation modeling, path analysis
- l. Understanding results
 - i. Samples and populations
 - ii. Inferential statistics
 - iii. Null and research hypotheses
 - iv. Probability and sampling distributions
 - v. T and F tests
 - vi. Type I and Type II errors
 - vii. Choosing a significance level
 - viii. Choosing a sample size
 - ix. Computer analysis of data
 - x. Selecting the appropriate statistical test
- m. Generalizing results
 - i. Generalizing to other populations of research participants
 - ii. Cultural factors
 - iii. Generalizing to other experimenters and laboratory settings
 - iv. Literature reviews, meta-analysis
 - v. Using research to improve lives

Lab Content

- a. Practice identifying different "mock" research designs
- b. Enter dummy data and conduct statistical analyses on "mock" research studies
- c. Locate information necessary to conduct research, use computerized databases, and access psychology web-based resources
- d. Formulate a hypothesis and select the appropriate design to test it
- e. Collect data for research project
- f. Code, enter, and analyze data with statistical software

- g. Give oral presentation of research project
- h. Write up research project using APA format
- i. Conduct research using a team approach

Special Facilities and/or Equipment

When taught via Foothill Global Access, reliable and continuous internet access is required. Students should take note of the software and/or hardware requirements to access the online platform and are encouraged to not use smart phones to complete their online work.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Quizzes
 Exams (multiple choice and short answer/essay questions)
 Problem solving exercises
 Oral presentation on research project
 Written research project in APA style
 Group work

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
 Class discussions
 Active learning exercises
 Laboratory work (e.g., entry of dummy data and analysis)

Representative Text(s) and Other Materials

Cozby, Paul, and Scott Bates. Methods in Behavioral Research, 14th ed.. 2020.

Schutt, Russell. Investigating the Social World: The Process and Practice of Research, 9th ed.. 2018.

American Psychological Association. Publication Manual, 7th ed.. 2020.

Cuttler, Carrie, Rajiv S. Jhangiani, and Dana C. Leighton. Research Methods in Psychology, 4th ed. (OER). 2019.

Cuttler, et al., text available as OER: <https://open.umn.edu/opentextbooks/textbooks/75>

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- a. Required to choose a topic of interest from class lectures or readings
- b. Conduct a literature review on a specific psychological or sociological concept or theory
- c. Conduct research by accessing psychological and sociological web-based databases (e.g., PsyArticles, Jstor, Psychology and Behavioral Sciences Collection)
- d. Meet with other group members to conduct research project

- e. Read textbook and research articles in psychology and sociology
- f. Write 10-page final research paper using APA format

Discipline(s)

Psychology