PSYC 10: RESEARCH METHODS & DESIGNS

Foothill College Course Outline of Record

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

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

Course Content

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