

College of San Mateo
Official Course Outline

1. **COURSE ID:** PSYC 120 **TITLE:** Introduction to Research Methods **C-ID:** POLS 160
Units: 3.0 units **Hours/Semester:** 48.0-54.0 Lecture hours; and 96.0-108.0 Homework hours
Method of Grading: Grade Option (Letter Grade or P/NP)
Prerequisite: PSYC 100 and either MATH 200 OR PSYC 121
Recommended Preparation:
 ENGL 100

2. **COURSE DESIGNATION:**
Degree Credit
Transfer credit: CSU
AA/AS Degree Requirements:
 CSM - GENERAL EDUCATION REQUIREMENTS: E2c. Communication and Analytical Thinking
 CSM - GENERAL EDUCATION REQUIREMENTS: E5b. Social Science

3. **COURSE DESCRIPTIONS:**
Catalog Description:
 Students examine fundamental elements of empirical research and the ways psychologists and sociologists think critically. Includes attention to the nature of theory, hypothesis, variables, and ethics of research. Application of qualitative and quantitative analytic tools, including logic and research design, such as survey, observational, experimental, case study, and comparative historical research. Computer applications are introduced.

4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**
 Upon successful completion of this course, a student will meet the following outcomes:
 1. Explain the basic principles of the scientific method, demonstrating knowledge of general research designs, experimental and non-experimental methods, and standard research practices.
 2. Critically evaluate & synthesize research reports.
 3. Develop and test hypotheses, demonstrating understanding of selecting appropriate research designs and assessing the generalizability of study results.
 4. Explain the ethical treatment of human and animal participants in research and the institutional requirements for conducting research.
 5. Demonstrate proficiency in APA style.

5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**
 Upon successful completion of this course, a student will be able to:
 1. Explain the basic principles of the scientific method.
 2. Critically evaluate research reports.
 3. Synthesize a body of research findings.
 4. Develop and test hypotheses.
 5. Demonstrate knowledge of general research designs, experimental and non-experimental methods, and standard research practices.
 6. Select appropriate research designs to test hypotheses.
 7. Explain the ethical treatment of human and animal participants in research and the institutional requirements for conducting research.
 8. Assess the generalizability of study results.
 9. Demonstrate proficiency in APA style

6. **COURSE CONTENT:**
Lecture Content:
 1. A. Introduction to research methods in the behavioral sciences
 - a. Uses of research methods
 - b. The scientific and nonscientific approach to knowledge
 - c. Goals of science and the scientific method
 - d. Basic and applied research
 - e. Hypotheses and predictions
 - f. Library research

- g. Components of a research article
- h. Evaluation of (peer-reviewed) scientific research
- i. Components of APA format

A. Ethical research

- a. APA ethical standards
- b. Human and animal subject use in research
- c. Assessment of risks and benefits in research
- d. Informed consent
- e. Use of deception in research
- f. Importance of debriefing
- g. Institutional review boards (IRBs)
- h. Researcher commitments

A. Studying behavior

- a. Operational definition of variables
- b. Relationships between variables
- c. Non-experimental versus experimental methods
- d. Independent and dependent variables
- e. Causality and correlational relationships

A. Measurement concepts

- a. Reliability of measures
- b. Construct validity of measures
- c. Personality and individual differences
- d. Reactivity of measures
- e. Variables and measurement scales

A. Observational methods (Descriptive Methods)

- a. Quantitative and qualitative approaches
- b. Observational techniques and rationale
- c. Ethnography
- d. Field notes
- e. Naturalistic observation
- f. Participant observation
- g. Systematic observation
- h. Case studies
- i. Archival research

A. Survey research methods

- a. Advantages and disadvantages of surveys in research
- b. Constructing questions
- c. Responses to questions
- d. Administering surveys
- e. Sampling from a population
- f. Sampling techniques and convenience samples

A. Experimental Design

- a. Confounding and internal validity
- b. Assigning participants to experimental conditions
- c. Independent groups design
- d. Repeated measures design
- e. Matched pairs design
- f. Counterbalancing and practice effects
- g. Limitations to the use of experimental methods

A. Conducting Experiments

- a. Selection of participants
- b. Manipulating the independent variable
 - i. Increasing the number of levels of an independent variables

- ii. Factorial designs
 - A. Measuring the dependent variable
 - B. Additional controls
 - C. Communicating research to others (APA & peer-review)
- A. Single case, quasi-experimental, and developmental research
 - a. Single case experimental design
 - b. Program evaluation
 - c. Quasi-experimental design
 - d. Developmental research design
 - i. Cross-sectional design
 - ii. Cross-sequential design
 - iii. Longitudinal design
- 10. Research Results: Description and Correlation
 - A. Frequency distributions
 - B. Descriptive statistics
 - C. Graphing relationships
 - D. Correlation coefficients
 - E. Effect size
 - F. Statistical significance
 - G. Regression
 - H. Multiple correlation, partial correlation
 - I. Structural equation modeling, path analysis
- 11. Understanding results & Generalizing results
 - A. Samples and populations
 - B. Inferential statistics
 - C. Null and research hypotheses
 - D. Probability and sampling distributions
 - E. T-tests & F-tests
 - F. Type I and II errors
 - G. Choosing significance level
 - H. Choosing sample size
 - I. Computer analysis of data
 - J. Selecting the appropriate statistical test
- 12. Generalizing to other populations of research participants
 - A. Cultural factors
 - B. Generalizing to other experimenters and laboratory settings
 - C. Literature reviews and meta-analysis

7. REPRESENTATIVE METHODS OF INSTRUCTION:

Typical methods of instruction may include:

- A. Lecture
- B. Directed Study
- C. Activity
- D. Discussion
- E. Other (Specify): Class exercises including practice with data analysis and practice of APA format

8. REPRESENTATIVE ASSIGNMENTS

Representative assignments in this course may include, but are not limited to the following:

Writing Assignments:

Research paper (8-10 pages) concerning research project conducted individually or with peers, utilizing and expressing knowledge of research design and methodology, including data description and analysis. Written work must include literature review and be submitted in APA format. Presenting upon topics of psychological research approved by the instructor. Complete short in class writing assignments and essay examination questions.

Reading Assignments:

Readings of textbook and peer-reviewed research articles in psychology.

Other Outside Assignments:

Conducting research of peer-reviewed articles via library databases including PsyArticles, Psychology and Behavioral Sciences Collection (EBSCO) and ProQUEST.

9. REPRESENTATIVE METHODS OF EVALUATION

Representative methods of evaluation may include:

- A. Class Participation
- B. Class Work
- C. Exams/Tests
- D. Group Projects
- E. Homework
- F. Oral Presentation
- G. Papers
- H. Projects
- I. Quizzes
- J. Research Projects
- K. Written examination

10. REPRESENTATIVE TEXT(S):

Possible textbooks include:

- A. Privitera, G.. *Research Methods for the Behavioral Sciences*, 1st ed. Thousand Oaks, CA: SAGE, 2013
- B. Morling, B.. *Research Methods in Psychology*, 2nd ed. New York: W. W. Norton & Company, 2014
- C. Cozby, P. & Bates, S.. *Methods in Behavioral Research*, ed. McGraw Hill , 2014
- D. Gravetter, F. & Forzano, L.. *Research Methods for the Behavioral Sciences*, 4th ed. Cengage Learning, 2011
- E. Shaughnessy, J. & Zechmeister, E.. *Research Methods in Psychology*, 10th ed. Columbus, OH: McGraw Hill, 2014

Possible periodicals include:

- A. . *Publication Manual of the American Psychological Association*, American Psychological Association Volume 6th 2013

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Course Originator: Michelle Mullane