

COURSE OUTLINE

Social Science 200 Research Methods for the Social Sciences

Catalog Statement

Social Science 200 is a lecture and laboratory course focusing on the nature of theory and the principles of descriptive and inferential research. Topics covered in the course include: an analysis of the scientific method, research design, ethical principles, internal and external validity, and scientific writing. The course is built around the application of these topics in a laboratory environment.

Total Lecture Units: 3.0
Total Laboratory Units: 0.5
Total Course Units: 3.5

Total Lecture Hours: 48.0
Total Laboratory Hours: 24.0
Total Laboratory Hours To Be Arranged: 0.0
Total Faculty Contact Hours: 72.0

Prerequisite: MATH 136 and (PSYCH 101 or SOC 101)

Note: This course may not be taken for credit by students who have successfully completed PSYCH 200.

Course Entry Expectations

Prior to enrolling in the course, the student should be able to:

- explain the basic foundations and dominant paradigms of psychology;
- explain the dynamic interplay of nature and nurture in producing most psychological phenomenon;
- outline the development of psychology or sociology;
- discuss the scientific underpinnings of psychology or sociology;
- describe and analyze realistic data sets using graphs and statistics;
- analyze real world results and identify flaws in statistical reasoning;
- design experiments and surveys;
- describe the sampling distribution for sample means, proportions, and standard deviations;
- present results using sound statistical reasoning.

Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:

- describe and apply each step of the scientific method;
- compare and contrast each research method used in the social sciences;
- design a study using experimental research;
- acquire skills necessary to develop a literature review using multiple search strategies;

- evaluate critically the internal and external validity of research;
- conduct statistical analysis of data;
- apply ethical standards as they pertain to experimental research;
- analyze the relationship between theory and research.

Course Content

Total Faculty Contact Hours = 72.0

Scientific Understanding of Human Behavior (Lecture 6 hours)

Brief history of science (and the scientific method)

Goals of science

Understanding a research article

Basic and applied research

Ethics (Lecture 3 hours)

American Psychological Association's and the American Sociological Association's Ethical Standards

Review of the antecedents of contemporary standards

Use of human and animal subjects

Cost and benefit analysis

Role of the Institutional Review Board

Research Design (Lecture 12 hours)

Research Concepts

Theories, hypotheses, and variables

Theoretical and operational definitions

Types of variables (e.g. independent, dependent, and confounding)

Samples and group assignment

Causal and correlational relationships

Descriptive Methods

Types of descriptive studies (e.g. survey, observation, case study, and correlation)

Observational techniques

Reactivity, demand characteristics, observer bias, expectancy effects, and other biases

Strengths and weaknesses of descriptive methods

Experimental Methods

Independent Group Designs

Repeated Measures Designs

Strengths and weaknesses of experimental methods

Counterbalancing and practice effects

Main effects and interaction effects

Unobtrusive Measures of Behavior (physical trace methods, archival research methods, and content analysis)

Other Research Designs

Single-Case Research Design

Quasi-Experimental Design

Measurement (Lecture 6 hours)

Psychometric concepts: Reliability, validity, and standardization

Reactivity of measures

Qualitative versus quantitative data

Research Development (Lecture 6 hours)

The research proposal (**Laboratory 6 hours**)

Pilot study

Beginning Research (Lecture 9 hours)

Literature review strategies, tools, and resources
Peer review of research questions, theories, and hypotheses

Conducting Research (Laboratory 9 hours)

Mock Institutional Review Board presentation
Data collection

Data Analysis (Laboratory 9 hours)

Descriptive versus inferential statistics
Null and research hypotheses
Distributions
Graphing data effectively
Statistical tests (e.g. correlation, chi-square, t-tests, and ANOVA)
Statistical significance
Type I and Type II errors

Presenting Findings (Lecture 6 hours)

Scientific writing
American Psychological Association style
Presentation strategies

Methods of Instruction

The following methods of instruction may be used in this course:

- classroom lecture and demonstration;
- analysis and critique of scientific articles;
- small group analysis and discussion;
- computer and internet use of demonstrations and resources;
- student presentations, discussions, and peer evaluations;
- online instruction;
- guest speakers.

Out of Class Assignments

The following out of class assignments may be used in this course:

- research paper (e.g. that evaluates existing scientific findings regarding the impact of hypermedia on attention, and proposes an experiment related to this topic);
- research (e.g. gather, analyze, and interpret experimental data on the impact of hypermedia on attention, and present in poster format).

Methods of Evaluation

The following methods of evaluation may be used in this course:

- class participation in individual and group exercises to practice course exit standards (e.g. develop a written criteria for mock Institutional Review Board evaluation)
- two in-class tests and one final examination requiring demonstration of course exit standards.

Textbooks

Bordens, Kenneth, and Bruce Abbott. *Research Design and Methods*. 9th ed. New York: McGraw-Hill, 2014. Print.
12th-13th Grade Textbook Reading Level. ISBN 0078035457.

Cozby, Paul, and Scott Bates. *Methods in Behavioral Research*. 12th ed. New York: McGraw-Hill, 2015. Print.
12th-13th Grade Textbook Reading Level. ISBN 0077861892.

Student Learning Outcomes

Upon successful completion of the required coursework, the student will be able to:

- use scientific reasoning to interpret social and behavioral phenomena;
- apply problem solving in the context of research;
- critique experimental designs within the existing literature.