PSY 103: STATISTICS FOR THE SOCIAL AND BEHAVIORAL SCIENCES

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2024
Credits:	3
Total Contact Hours:	54
Lecture Hours :	54
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	108
Total Student Learning Hours:	162
Prerequisite:	Intermediate algebra or higher or direct placement based on multiple measures.
Strongly Recommended:	ENGL 101.
District General Education:	A3. Mathematics
Transferable to CSU:	Yes
Transferable to UC:	Yes - Approved
Grading Method:	Standard Letter

Catalog Course Description

An elementary course in statistical concepts designed especially for students in the social and behavioral science areas. The development of basic skills in descriptive statistics and inferential statistics is stressed. Initial emphasis will be placed on understanding the normal curve and its properties. Special attention will then be given to parametric tests (Pearson's correlation, Z test, t-tests, ANOVA) as well as non-parametric tests (Chi Square). 54 lecture hours.

Course Objectives

- critically evaluate the basic statistical techniques presently being used in the behavioral and social sciences
- have an appreciation for the basic competency in fundamental statistical methods and their role in the behavioral and social sciences
- explain the function of statistics in designing experiments and in evaluating experimental results
- have an individual competency in descriptive statistics, i.e., collecting and organizing data in frequency distributions, tables, charts and graphically presenting measures of central tendency and variability
- be familiar with fundamental considerations of probability, measuring scales and mathematical models so the student can critically evaluate and analyze present research in the behavioral and social sciences

Major Course Content

1. Student Should Analyze and Assess
   a. Mathematical models and measuring scales
   b. Effective uses of statistics
   c. Misuses of statistics
   d. Observation and measurement
2. Descriptive Statistics
   a. Grouped frequency data
   b. Tables and graphs
      i. histograms, polygons, cumulative frequency curves
      ii. percentiles
   c. Measures of central tendency
      i. mean
      ii. median
      iii. mode
3. Inferential Statistics
   a. Populations and samples
   b. Standard deviation and Z scores
   c. Normal curve and probability
   d. Correlation and linear regression
   e. T Test
   f. F Test and analysis of variance
   g. Formulating statistical hypothesis
   h. Reliability and validity
   i. Chi square and other non-parametric statistics
4. Statistics as Applied to the Scientific Method in Experimental Design

Examples of Required Writing Assignments

Student will be asked to solve statistical problems as homework assignment.

Examples of Outside Assignments

Calculate the mean, median and mode as a measure of central tendency in various populations; address which of these measures best represents the population of interest.

Use the appropriate statistical test to determine whether the difference between two population samples are statistically significant (e.g., t-test).

Instruction Type(s)

Lecture, Online Education Lecture

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

Yes