SOC 0015S - SUPPORT FOR INTRODUCTION TO STATISTICS IN SOCIOLOGY

Catalog Description

Corequisite: Concurrent enrollment in SOC 15
Hours: 18 lecture
Description: Support option covering the core prerequisite skills, competencies, and concepts for Statistics in Sociology. Intended for students who are concurrently enrolled in SOC 15. Topics include concepts from arithmetic, pre-algebra, elementary and intermediate algebra, and descriptive statistics that are needed to understand the basics of college-level statistics. Concepts are taught through the context of sociological data analysis. Strongly recommended for students enrolled in SOC 15 with little or no recent algebra knowledge. (not degree applicable) (pass/no pass grading)

Course Student Learning Outcomes

- CSLO #1: Apply strategies proven to reduce math anxiety and improve learning skills.
- CSLO #2: Apply concepts from arithmetic, pre-algebra, elementary algebra, and intermediate algebra to college-level statistics problems.
- CSLO #3: Explain the role of statistics in sociological research and demonstrate critical thinking while reading and interpreting sociological data.

Effective Term

Fall 2024

Course Type

Credit - Nondegree-applicable

Contact Hours

18

Outside of Class Hours

36

Total Student Learning Hours

54

Course Objectives

Students will be able to:
1. Demonstrate critical thinking while reading and interpreting sociological data.
2. Analyze information and develop strategies for solving problems involving statistical and logical reasoning.
3. Graphically represent sociological data.
4. Compare data sets using numerical measures and appropriate graphical representations and communicate findings.
5. Round numbers to the appropriate decimal place.
6. Recognize and appropriately use equivalent forms of fractions, decimals, and percentages.
7. Understand and interpret summation notation.
8. Understand and interpret inequalities.
9. Apply, interpret, and explain the basics of probability as applied to sociological data.
10. Identify variables in descriptive statistics.
11. Understand the relationship between the area under the curve and the representative proportion.
12. Solve linear equations.
13. Use the order of operations to evaluate statistical formulas.
14. Describe and interpret statistical measures applied to sociological data.
15. Demonstrate fluency with statistical terminology and notation through written and/or oral presentation.
16. Implement effective learner-specific learning strategies and study techniques.
17. Explain the role of statistics in sociology.

General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

Articulation Information

- Not Transferable

Methods of Evaluation

- Classroom Discussions
  - Example: 1. In small groups, discuss why statistics are important in sociological research. 2. Practice at least 3 strategies for overcoming math anxiety for three weeks and then discuss in small groups how effective those strategies were for you. Why do you think some were more effective than others? What will you do to continue reducing your math anxiety?
- Essay Examinations
  - Example: If given a skewed distribution of data, is it more appropriate to use the mean or median as the measure of central tendency? Why?
- Objective Examinations
  - Example: What is 13.49842 rounded to the nearest hundredth? a) 13.498 b) 13.49 c) 13.50 d) 13.5
- Problem Solving Examinations
  - Example: Demonstrate your understanding of frequencies, percentages, cumulative frequencies, and cumulative percentages by creating a frequency table with each of these statistics for the given data set.
- Projects
  - Example: Create and maintain a portfolio of your experiences practicing strategies to overcome math anxiety to be more successful in math. Submit it at various points during the semester for instructor feedback.

Repeatable

No

Methods of Instruction

- Lecture/Discussion
- Distance Learning

Lecture:

1. Instructor will provide an interactive lecture on calculating and interpreting proportions and percentages. Instructor will assign practice exercises for students to discuss and calculate together in small groups of 3-4 students

Distance Learning

1. Instructor will create and embed a video demonstrating how to identify variables in descriptive statistics. Then the students will create and upload their own video, audio, or written assignment demonstrating their ability to identify variables.

Typical Out of Class Assignments
Reading Assignments

1. Read the article comparing fixed and growth mindsets when learning mathematical concepts and be prepared to discuss in class. 2. Read the case study comparing crime statistics for low-income, middle-income, and high-income individuals in the United States and be prepared to discuss in class.

Writing, Problem Solving or Performance

1. Compare the mean and median incomes for people living in the U.S. Why are the values so different and which is the more appropriate measure of central tendency to use if you are creating a research report about income in the U.S. 2. A student finds that every time they go into a classroom to take a math test, they get nervous, start doubting that they are any good at math, and think they will forget everything they studied the night before. What strategies would you suggest to the student to help them overcome their math anxiety and become more confident about their ability to perform well on math tests?

Other (Term projects, research papers, portfolios, etc.)

Create and maintain an online portfolio of your experiences practicing strategies to overcome math anxiety.

Required Materials

- Elementary Statistics in Social Research: Essentials
  - Author: Jack A. Levin and James Alan Fox
  - Publisher: Pearson
  - Publication Date: 2019
  - Text Edition: 4th
  - Classic Textbook?: No
  - OER Link:
  - OER:
- Statistics: A Tool for Social Research and Data Analysis
  - Author: Joseph F. Healey and Christopher Donoghue
  - Publisher: Cengage
  - Publication Date: 2021
  - Text Edition: 11th
  - Classic Textbook?: No
  - OER Link:
  - OER:
- Social Statistics for a Diverse Society
  - Author: Chava Frankfort-Nachmias and Anna Leon-Guerrero
  - Publisher: Sage
  - Publication Date: 2020
  - Text Edition: 9th
  - Classic Textbook?: No
  - OER Link:
  - OER:

Other materials and-or supplies required of students that contribute to the cost of the course.

SPSS Software