CORE CURRICULUM COMPONENT APPLICATION
Texarkana College

Part I: Course Information

Course Type
☒ Existing/Restructured
☐ New Course

Course Prefix & Number: Math 1442

Texas Common Course Number (TCCN): 1442

Course Title: Elementary Statistical Methods

Course Catalog Description

Elementary Statistical Methods (4,3,2). An introductory course in statistical methods. Topics include collection and display of data, mean, standard deviation and variance, probability including the normal, binomial, and chi-square distributions. Other topics also included are sampling and sampling distributions, confidence intervals, hypothesis testing including nonparametric tests, regression, and analysis of variance.

Course Prerequisites:
Satisfactory placement scores. (TSI 230 or above or instructor approval. After August 25, 2013, students will be required to meet new scores based on the TSI Assessment Test).

Available Online?
☐ Yes
☒ No

Part II: THECB Course Objectives
1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine, and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze, and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

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Part III: THECB Skill Objectives

1. Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

2. Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication

3. Empirical and Quantitative Skills: to include applications of scientific and mathematical concepts.

Part IV: Course Student Learning Outcomes (SLO)

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine, and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze, and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

Skill Objective:	**Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
THECB Course Objective	Recognize, examine, and interpret the basic principles of describing and presenting data..
Course Student Learning Outcome	Recognize, examine, and interpret the basic principles of describing and presenting data.
General Learning Activities	Students will collect data, organize it in a meaningful way, display the data using an appropriate method, and analyze the data. Ex. Find the percent of m&m's that are orange, green,blue, etc.
Assessment ***Must Include Assignment & Rubric***	Students will collect data and display in an appropriate way. The students will then analyze the data and the graph they created. For example, students will be given m&m's and the students will count the % of orange m&m's in each sample. The students will then collect each other's data, graph it using a dot plot and analyze the graph by describing the overall shape and unique

	features of the graph. The students will also give numerical descriptions of the center of the data, and determine which description is best. This will be assessed using the Critical Thinking Skills rubric.

Skill Objective:	**Communication Skills:** to include effective written, oral, and visual communication
THECB Course Objective	Recognize, examine, and interpret the basic principles of describing and presenting data.
Course Student Learning Outcome	Recognize, examine, and interpret the basic principles of describing and presenting data. collection and statistics as tools to reach reasonable conclusions.
General Learning Activities	Students will collect data, organize it in a meaningful way, display the data using an appropriate method, and analyze the data. Ex. Find the percent of m&m's that are orange.
Assessment ***Must Include Assignment & Rubric***	The assignment will be to communicate in a written report using the media of their choice and class presentation the results of their data collection, analysis and conclusion. The Communication Skills rubric will be used to assess communication skills.

Skill Objective:	**Empirical and Quantitative Skills:** to include applications of scientific and mathematical concepts.
THECB Course Objective	Recognize, examine, and interpret the basic principles of describing and presenting data.
Course Student Learning Outcome	Recognize, examine, and interpret the basic principles of describing and presenting data.
General Learning Activities	Students will collect data, organize it in a meaningful way, display the data using an appropriate method, and analyze the data. Ex. Find the percent of m&m's that are orange.
Assessment ***Must Include Assignment & Rubric***	The assignment will be to use data by finding percentages and then plotting the percentages and analyzing the graphs by describing the overall shape and unique features of the graph. The students will also give a numerical description of the center of the data. The Empirical and Quantitative Skills rubric will be used to assess empirical and quantitative skills.

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