Subject:	PASS
Course Number:	512
Descriptive Title:	Statistics Math Academy
Division:	Library and Learning Resources
Department:	Pathways to Academic Success
Course Disciplines:	Mathematical Sciences
Catalog Description:	This course covers arithmetic and pre-algebra skills commonly used in introductory statistics. Some topics include (but not limited to) place values and rounding, scatterplots and graphing linear equations, converting between percents, fractions, and decimals, calculating area, mean, median, modes, and interpreting mean and standard deviation.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	2.33
Hours Laboratory (per week):	0.3
Outside Study Hours:	0
Total Course Hours:	48
Course Units:	0 units
Grading Method:	Pass/No Pass/SP
Credit Status:	Noncredit
Transfer CSU:	No
Effective Date:	
Transfer UC:	No
Effective Date:	
General Education ECC:	
Term:	
Other:	
CSU GE:	
Term:	

Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	Upon completion of the course, students will be able to: 1) recognize real numbers in decimal, percent, and fraction forms involved in real-world science application problem. 2) use visual and graphical methods to represent and analyze univariate and bivariate data to solve scienc e lab-related problems. 3)perform mathematical order of operations (addition, subtraction, multiplication, division) on fractions, decimals, and integers.
Course Objectives:	1. Perform various operations (addition, subtraction, multiplication, division, and exponentiation) on different sets of numbers (whole, integer, and rational) and recognize equivalence when it occurs, particularly with fractions, decimals, and percents. 2. Relate the sample mean and standard deviation to the frequency histogram for a data set. 3. Use estimate and rounding to determine the reasonableness of results. 4. Read and understand the visual scatterplots, bars, histograms, and line graphs. 5. Calculate mean, median, and mode. 6) Interprete the meaning of mean and standard deviations.
Major Topics:	I. BASIC OPERATION ON (12 hours, Lecture) A. INTERGERS a. Addition, Subtraction, Multiplication, Division, Exponentiation b. Multiples, Least Common Multiples B. FRACTIONS a. Addition, Subtraction, Multiplication, Division, Exponentiation with whole number exponents, b. and the Order of Operations C. DECIMALS a. Addition, Subtraction, Multiplication, Division, Exponentiation with whole number exponents, b. Rounding c. and the Order of Operations D. DECIMALS, FRACTIONS, AND PERCENTAGES a. Equivalents of Decimals, fractions, and percentages b. Rate and Ratio c. Solving equations Area. II. BASIC OPERATION AND APPLICATION (2 hours, Lab) A. DECIMALS, FRACTIONS, AND PERCENTAGES a. Equivalents of Decimals, fractions, and percentages b. Rate and Ratio

c. Solving equations Area.

III. DESCRIBING AND DISPLAYNG DATA (12 hours, Lecture)

A. GATHERING AND INTERPRETING DATA
   a. Gathering, organizing, analyzing, presenting, and interpreting data
B. EXPLORING DATA ANALYSIS
   a. Dot plots, stem-and-leaf plots
   b. Five-number summaries
   c. Boxplots
C. CREATING AND INTERPRETING VISUAL DISPLAYS OF DATA OR DISTRIBUTIONS
   a. Bar graphs, pie charts, scatter plots, and histograms.
D. VERBAL AND DESCRIPTIONS OF DISTRIBUTIONS
   a. Measures of Central Tendency
      i. Mean, median, mode
   b. Measure of spread
      i. Standard deviation, inter-quartile range, and range
E. MEASURES OF RELATIVE POSITION
   a. Quartiles
   b. Percentiles

IV. VERBAL AND DESCRIPTIONS OF DISTRIBUTIONS (2 hours, Lab)
   A. MEASURES AND CENTRAL TENDENCY
      a. Mean, median, mode

1.
   B. MEASURES OF SPREAD

b. Standard deviation, inter-quartile range, and range

V. SYMBOLIC, GRAPH, AND NUMERICAL REPRESENTATIONS FOR LINEAR FUNCTIONS (8 hours, Lecture)
   A. FUNCTIONS
      a. Functions as Rules
      b. Sets of ordered pairs (or tables)
      c. Algebraic equations
      d. Graphs
   B. SOLVING EQUATIONS AND EVALUATION
      a. Using Function notation,
      b. Symbolically and graphically of linear functions
   C. GRAPHING TECHNIQUES AND APPROPIATE SCALING
VI. LINEAR RELATIONS, EQUATIONS AND FUNCTION (6 hours, Lecture)
   A. FINDING, ESTEMATING, AND INTERPRETING
      a. The slope of linear relation (Proportional reasoning)
   B. GRAPHS AND EQUATIONS OF LINEAR RELATIONS
      a. A point and slope
      b. A slope and y-intercept

	c. Two points C. SOLUTIONS OF LINEAR EQUATIONS a. One variable and graphs of the solutions on number lines D. DETERMINING WHEN DATA MAY BE APPROPIATELY MODELED a. Using a linear function b. Meaningful domains c. Creating and using Linear Models to make predictions in context. VII. GRAPHING LINEAR EQUATIONS (2 hours, Lab) 1. a. Finding order pairs b. A slope and y-intercept c. Two points
Total Lecture Hours:	42
Total Laboratory Hours:	6
Total Hours:	48
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	Last week we needed 50 chairs for the meeting. This week we need 250% of that number of chairs. How many chairs do we need?
Critical Thinking Assignment 1:	The following set of numbers is the shoe sizes in centimeters of people from our class: 36, 36, 28, 41, 37, 35, 45, 37, 38, 39, 44, 42 What is the Mean, Median, and Mode?
Critical Thinking Assignment 2:	Find your grade point average for last semester: Class / Credits Statistics / 4 Political Science / 3 English 100 / 3
Other Evaluation Methods:	Class Performance, Completion, Homework Problems, Quizzes
If Other:	
Instructional Methods:	Demonstration, Discussion, Lecture, Multimedia presentations
If other:	

Work Outside of Class:	Skill practice
If Other:	
Up-To-Date Representative Texts:	Teacher-generated materials
Alternative Texts:	N/A
Required Supplementary Readings:	N/A
Other Required Materials:	N/A
Requisite	
Category	
Requisite course:	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
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corresponding course objective under each skill(s). if applicable	
Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Malinni Roeun
Date:	03/15/2024
Original Board Approval Date:	11/18/2024
Effective Term:	SP 2025