

Colorado BMEF CTE Course – Scope and Sequence

Course Name	Business Statistics	Course Details	Credits = .5 (Semester) Level 3
		Course = 0.50 Carnegie Unit Credit	
Course Description	Focuses on statistical study, sampling, organizing and visualizing data, descriptive statistics, probability, bi-nominal distributions, normal distributions, confidence intervals, linear regression, and correlation. Intended for business majors.		
Note	This is a suggested scope and sequence for the course content. The content will work with any textbook or instructional resource. If locally adapted, make sure all course competencies are covered. This course aligns to the CCNS (BUS2026). Please contact your local community college partner for credit options.		
SCED Identification # 02205		Schedule calculation based on 60 calendar days of a 90-day semester. Scope and sequence allows for additional time for guest speakers, student presentations, field trips, remediation, or other content topics.	
All courses taught in an approved CTE program must include Essential Skills embedded into the course content. The Essential Skills Framework for this course can be found at https://www.cde.state.co.us/standardsandinstruction/essentialskills			
COURSE COMPETENCIES			
The competencies you will demonstrate in this course are as follows:			
A. Describe the nature and implication of basic principles of statistics and how they play an important role in our daily lives. B. Organize and summarize data and represent graphically the important information contained in a data set. C. Compute numerical quantities that measure the central tendency and dispersion of a set of data. D. Understand the basic properties of probability. E. Determine probabilities using postulates, rules of probability and various probability distribution tables. F. Distinguish between discrete and continuous variables. G. Compute the mean and standard deviation of a probability distribution. H. Test hypotheses by using the appropriate distribution and constructing confidence intervals about means, standard deviations, and proportions. I. Use methods for estimating some population parameters. J. Understand and apply the basic concepts of statistical inference to the decision-making process. K. Fit a least-square line to a set of data and interpret the coefficient of correlation. L. Use a statistical software package in performing statistical computations.			

Instructional Unit Topic	Suggested Length of Instruction	CTE or Academic Standard Alignment	Competency / Performance Indicator	Outcome / Measurement	CTSO Integration
Foundations of Statistics & Descriptive Data		Define basic statistical concepts & vocabulary	A, F	Vocabulary quiz, concept explanation, real-world application reflection	FBLA: Database Design & Applications Introduction to Financial Math Spreadsheet Applications Appropriate throughout this course
		Construct tables & charts (qualitative & quantitative data)	B	Create charts (bar, pie, histogram) from dataset; graded rubric	
		Calculate measures of central tendency & variation	C, L	Solve problems (mean, median, SD); spreadsheet/software output	
		Evaluate symmetry/skewness of data	B, C	Interpret distributions; written analysis of skewness	
Probability & Distributions		Construct data tables & charts	B	Data visualization assignment	
		Understand probability concepts	D, F	Problem sets, conceptual quiz	
		Calculate conditional probability	E	Word problems, applied scenarios	
		Build probability distributions (mean/variance)	E, G	Distribution calculations; expected value problems	
		Compute normal distribution probabilities	E, L	Z-score calculations, software output	

		Apply standard normal distribution to business problems	E, L	Case study or scenario analysis	
		Use statistical software	L	Software-based assignment (Excel/SPSS/etc.)	
Sampling & Confidence Intervals		Compute probabilities for sample mean/proportion	E, I	Problem solving with sampling distributions	
		Understand Central Limit Theorem	I, J	Written explanation + applied problems	
		Construct confidence intervals	H	Interval calculations, interpretation writing	
		Determine sample size	I, J	Applied calculation assignment	
		Use statistical software	L	Software-generated confidence interval report	
Hypothesis Testing		Test means & proportions (various scenarios)	H, L	Hypothesis testing problems across scenarios	
		Compare multiple populations (ANOVA concepts)	H, L	Case-based analysis	
		Differentiate types of statistical tests	H, J	Written comparison or decision tree	
		Use statistical software	L	Software-based hypothesis testing output	
Regression & Correlation		Predict using linear regression	H, J, K, L	Regression analysis project; interpretation	
		Evaluate regression assumptions	H, J	Residual analysis, written justification	
		Apply statistical vocabulary & concepts	A, F	Cumulative assessment or concept check	
		Use statistical software	L	Regression output using software	



Academic Standards Alignment

Colorado CTE courses are required to integrate academic and essential skills into course content. The following academic standards have been identified as aligned to this course and should be integrated throughout instruction.

[CO CTE Academic Standards Resources](#) (Rubrics, integration strategies, etc)

[CDE Colorado Academic Standards Online](#) (Online standards lookup tool)

Reading, Writing, & Communicating

Standard 2: Reading for All Purposes

- **Prepared Graduate 4:** Read a wide range of informational texts to build knowledge and to better understand the human experience.

Standard 3: Writing and Composition

- **Prepared Graduate 6:** Craft arguments using techniques specific to the genre.
- **Prepared Graduate 7:** Craft informational/explanatory texts using techniques specific to the genre.

Standard 4: Research Inquiry and Design

- **Prepared Graduate 10:** Gather information from a variety of sources; analyze and evaluate its quality and relevance; and use it ethically to answer complex questions.

Note: Mathematics and Science standards will be added in the future. Visit the [Colorado Academic Standards](#) page for the most current version.