Mathematics: Applied Business Math B
Unit 2: Business Analysis and Technologies

Essential Understandings	▪ Understanding of data analysis is important for success in the business world. ▪ Successful use of technology helps the modern business improve profitability.
Essential Questions	▪ How does one measure central tendency? ▪ What are the basic concepts of probability? ▪ How does one construct and interpret bar and line graphs? ▪ How does one construct and interpret circle and rectangle graphs? ▪ How do statistics help guide business decisions? ▪ What technologies are useful for the modern business?
Essential Knowledge	▪ Mean, median, mode and range are used to describe data sets. ▪ Probability can be calculated mathematically and experimentally. ▪ Graphs are visual interpretations of real world data? ▪ Using technology to your advantage is important for the modern business.
Vocabulary	▪ <u>Terms</u>: ○ mean, median, mode, range, consumer price index, inflation, unemployment rate, hardware, software, e-business, web hosting
Essential Skills	▪ Calculate mean, median, mode and range. ▪ Determine probability of simple events. ▪ Interpret and make various types of graph. ▪ Calculate rates of inflation. ▪ Calculate the costs of buying or leasing computer equipment.

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Related Maine Learning Results	Mathematics
	A. Number
	  Real Number
	  A1. Students know how to represent and use real numbers.
	    a. Use the concept of nth root.
	    b. Estimate the value(s) of roots and use technology to approximate them.
	    c. Compute using laws of exponents.
	    d. Multiply and divide numbers expressed in scientific notation.
	    e. Understand that some equations do not have real solutions and that there exist other number systems to allow for solutions to these equations.
	B. Data
	  Data Analysis
	  B2. Students understand correlation and cause and effect.
	    a. Recognize when correlation has been confused with cause and effect.
	    b. Create and interpret scatter plots and estimate correlation and lines of best fit.
	    c. Recognize positive and negative correlations based on data from a table or scatter plot.
	    d. Estimate the strength of correlation based on a scatter plot.
	  B3. Students understand and know how to describe distributions and find and use descriptive statistics for a set of data.
	    a. Find and apply range, quartiles, mean absolute deviation, and standard deviation (using technology) of a set of data.
	    b. Interpret, give examples of, and describe key differences among different types of distributions: uniform, normal, and skewed.
	    c. For the same mean of normal distributions, use the standard deviation for a group of observations to establish 90%, 95%, or 99% confidence intervals.
	  B4. Students understand that the purpose of random sampling is to reduce bias when creating a representative sample for a set of data.
	    a. Describe and account for the difference between sample statistics and statistics describing the distribution of the entire population.
	    b. Recognize that sample statistics produce estimates for the distribution of an entire population and recognize that larger sample sizes will produce more reliable estimates.
	    c. Apply methods of creating random samples and recognize possible sources of bias in samples.

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Sample Lessons And Activities	- Select and summarize information from a graph from your local newspaper. - Create and evaluation tool to use for making decisions about purchasing computer equipment and services.
Sample Classroom Assessment Methods	- Homework - Quizzes - Chapter Test
Sample Resources	- Publications: - Business Math