

COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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Effective Term: Fall 2020

January 31, 2018
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A. Course Identification:

1. Subject Area: Business (BUS)
2. Course Number: 232 SUN # BUS 2201
3. Course Title: Business Statistics and Analysis
4. Credit Hours: 3
5. **Course Description:** Business statistics involves statistical tools and techniques used in applications. Includes collection of data, graphical and descriptive statistics, probability and probability distributions, point and interval estimates of population parameters, hypothesis testing, and correlation and regression. Prerequisite: *Any college level math or placement. General Education: Options. Three lecture.

B. Course Goals: To build student proficiency and confidence in the use of fundamental principles and concepts of statistical analysis. To develop problem solving skills that help students develop a positive attitude toward the use of statistics.

C. Course Outcomes:

Students will be able to:

1. use statistical methods to collect, organize, analyze and interpret numerical data;
2. create and interpret graphs of data;
3. calculate and use measures of central tendency and variability;
4. calculate probabilities for events or combinations of events;
5. predict the outcomes of an event;
6. explain and use the Central Limit Theorem;
7. estimate population parameters for one and two populations;
8. recognize a variety of probability distributions;
9. interpret confidence intervals;
10. test hypotheses;
11. determine and interpret linear regression and correlation;
12. solve application situations using a variety of statistical methods;
13. and use technology to solve a variety of statistical applications.

D. Course Outcomes Assessment

Must include:

1. instructor assigned homework from the homework problems in the book;
2. tests based on course content;
3. project over hypothesis testing and confidence intervals;
4. and comprehensive final exam.

E. Course Content

Must include:

1. introduction:
 - a. populations;
 - b. sample;
 - c. random variable;
 - d. parameter;
 - e. statistics;

- f. data collection methods;
- 2. descriptive statistics:
 - a. central tendency: mean, median, and mode;
 - b. variability: range, variance, and standard deviation;
 - c. graphs: bar, pie, histogram, and ogive;
- 3. probability:
 - a. event probability;
 - b. conditional probability;
 - c. mutually exclusive;
 - d. independence;
 - e. distributions: binomial and normal;
- 4. confidence interval estimate:
 - a. one population mean;
 - b. the difference of two population means;
 - c. proportions
- 5. hypothesis testing:
 - a. one population mean;
 - b. two population means;
 - c. chi-squared test for independence;
 - d. proportions
- 6. regression:
 - a. scatter diagram;
 - b. simple linear regression equation;
 - c. prediction of response variable;
- 7. correlation:
 - a. correlation coefficient;
 - b. interpretation of correlation;
 - c. test of correlation coefficient;
- 8. and applications.