

### Course Outline

**COURSE:** BUS 11                      **DIVISION:** 50                      **ALSO LISTED AS:** ECON 11

**TERM EFFECTIVE:** Fall 2020                      **CURRICULUM APPROVAL DATE:** 04/14/2020

**SHORT TITLE:** BUS/ECON STATISTICS

**LONG TITLE:** Statistics for Business and Economics

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
4	18	Lecture:	4	72
		Lab:	0	0
		Other:	0	0
		Total:	4	72

**COURSE DESCRIPTION:**

The use of probability techniques, hypothesis testing, and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square and t-tests; statistical analysis including the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social science, psychology, life science, health science, and education. Additional and more extensive case studies from business and economics, emphasizing statistical results that provide guidance for business decisions or suggest solutions to contemporary business and economic problems; use of larger data sets analyzed with computer software programs. (C-ID: MATH 110) This course is also listed as ECON 11. **PREREQUISITE:** Intermediate Algebra or the equivalent.

**PREREQUISITES:**

- Completion of MATH 233, as UG, with a grade of C or better.
- OR
- (Completion of MATH 233A, as UG, with a grade of C or better.
- AND Completion of MATH 233B, as UG, with a grade of C or better.)
- OR
- Completion of MATH 235, as UG, with a grade of C or better.
- OR
- Completion of MATH 240, as UG, with a grade of C or better.
- OR
- Completion of MATH 242, as UG, with a grade of C or better.
- OR
- Completion of MATH 3, as UG, with a grade of C or better.
- OR
- Completion of MATH 5, as UG, with a grade of C or better.
- OR

Completion of MATH 6, as UG, with a grade of C or better.  
OR  
Completion of MATH 7, as UG, with a grade of C or better.  
OR  
Completion of MATH 8A, as UG, with a grade of C or better.  
OR  
Completion of MATH 8B, as UG, with a grade of C or better.  
OR  
Completion of MATH 12, as UG, with a grade of C or better.  
OR  
Completion of MATH 14, as UG, with a grade of C or better.  
OR  
Completion of MATH 1A, as UG, with a grade of C or better.  
OR  
Completion of MATH 1B, as UG, with a grade of C or better.  
OR  
Completion of MATH 1C, as UG, with a grade of C or better.  
OR  
Score of 33 on Intermediate Algebra  
OR  
Score of 13 on Pre-Calculus  
OR  
Score of 2600 on Accuplacer Math  
OR  
Score of 2600 on MM CCCApply Math  
OR  
Score of 2600 on MM Placement Tool Math

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

05 - Hybrid

72 - Dist. Ed Internet Delayed

**STUDENT LEARNING OUTCOMES:**

By the end of this course, a student should:

1. Select the appropriate technique for testing a hypothesis and interpret the result.
2. Perform hypothesis tests involving samples from one and two populations.
3. Use linear regression and ANOVA analysis for estimation and inference, and interpret the associated statistics.
4. Use appropriate statistical techniques to analyze and interpret applications based on data from disciplines including business, economics, social sciences, psychology, life science, health science, and education.

**CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS**

Curriculum Approval Date: 04/14/2020

(4 hours)

Summarizing data graphically and numerically

(8 hours)

Descriptive statistics: measures of central tendency, variation, relative position, and levels/scales of measurement

(4 hours)

Sample spaces and probability

(4 hours)

Random variables and expected value

(8 hours)

Sampling and sampling distributions, Discrete distributions, Binomial distributions

(12 hours)

Continuous distributions, Normal distributions, The Central Limit Theorem

(8 hours)

Estimation and confidence intervals

(18 hours)

Hypothesis Testing and inference, including t-tests for one and two populations, and Chi-square tests

(4 hours)

Correlation and linear regression, Analysis of variance (ANOVA)

(2 hours)

Final

**METHODS OF INSTRUCTION:**

Lecture, discussion, demonstration, presentation and other appropriate methods for content delivery and student participation.

**OUT OF CLASS ASSIGNMENTS:**

Required Outside Hours: 144

Assignment Description:

Problems assigned from the relevant chapter, longer projects or case studies using technology.

Exercises and applications using data from disciplines including business, social sciences, psychology, life science, health science, and education.

Statistical analysis using technology such as SPSS, EXCEL, Minitab, or graphing calculators.

**METHODS OF EVALUATION:**

Writing assignments

Percent of total grade: 20.00 %

15% - 35% Written homework

Problem-solving assignments

Percent of total grade: 70.00 %

70% - 85% Homework problems; Quizzes; Exams

Objective examinations

Percent of total grade: 10.00 %

10% - 30% Multiple choice; True/false; Matching items; Completion

**REPRESENTATIVE TEXTBOOKS:**

Anderson, Sweeney, Williams, Camm, Cochran. Statistics for Business & Economics, Revised. Cengage, 2018.

Reading Level of Text, Grade: 12+ Verified by: MS Word

**ARTICULATION and CERTIFICATE INFORMATION**

Associate Degree:

GAV B4, effective 200770

CSU GE:

CSU B4, effective 200770

IGETC:

IGETC 2A, effective 200770

CSU TRANSFER:

Transferable CSU, effective 200770

UC TRANSFER:

Transferable UC, effective 200770

**SUPPLEMENTAL DATA:**

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department: MATH

CSU Crosswalk Course Number: 110

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: C

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000354179

Sports/Physical Education Course: N

Taxonomy of Program: 050100