

**Columbus State Community College**  
**Mathematics Department Syllabus**  
**Student Syllabus**

Course Number: STAT 2430 Course Name: Business Statistics

Credit Hours: 4 semester credits (3 lecture and 2 lab hours per week)

Prerequisite: A grade of “C” or higher in MATH 1131 or MATH 1151

**DESCRIPTION OF COURSE**

STAT 2430 is designed to acquaint students with statistical methods used in gathering and analyzing data. The course includes: designing samples and experiments; describing data with graphs and numerical summaries; correlation and regression; concepts in probability; probability distributions including the binomial, normal, uniform, exponential, and other continuous probability distributions; the Central Limit Theorem; confidence intervals and hypothesis testing for means and proportions; inference for comparing two populations; Chi-Square test of independence; and multiple linear regression. Applications in business, management, and economics are emphasized.

**COURSE GOALS**

- To master the major concepts and methods of analysis in probability and statistics.
- To apply concepts and methods to business, management, economics, and related areas.
- To develop competence in problem recognition, calculator computation, and interpretation of results.
- To use Excel and the TI calculator as statistical tools.

**INSTITUTIONAL LEARNING GOALS**

This course addresses the following Columbus State general education goals:

- Critical Thinking
- Quantitative Skills

**REQUIRED TEXTBOOK, CALCULATOR AND OTHER RESOURCES**

- **There is no required textbook for this course, materials are provided through Blackboard.**
- **A graphing calculator is REQUIRED.** The Texas Instruments' TI-84 (regular, Plus, Silver, etc.) graphing calculator is strongly recommended, fully supported, and approved for use during proctored assessments.

*Calculator Alternatives:* Some students may prefer to use a CASIO-FX-9750GII, TI-Nspire (non CAS version), or a TI-83. These are less expensive options that are similar to the TI-84, and that are approved for use during proctored assessments. However, note that your instructor will primarily use the TI-84 when teaching, meaning that you will need to learn how to perform any necessary operations, using these other calculators, without your instructor's help.

Other graphing calculators may be permitted. If you own a different calculator, please check with your current instructor to see if your calculator will be allowed during their proctored assessments.

The TI-89, TI-92, TI-Nspire CAS, or other Computer Algebra System (CAS) calculators, are never allowed during proctored assessments.

Your instructor may require that your graphing calculator's memory be reset (all RAM cleared) prior to each proctored assessment.

The Columbus State Bookstore sells both the TI-84 and CASIO-FX-9750GII for your convenience. Additional resources supporting the use of the TI-84 and CASIO-FX-9750GII may be available at:

<http://www.csc.edu/academics/departments/math/graphing-calculator.shtml>.

- **Excel Software (REQUIRED).** This software is available in DH 104, 107, and off-campus computer labs.
- Tutoring is available in the Learning Resource Center. See <https://www.csc.edu/academics/departments/math/tutoring.shtml> for location and posted hours.

### **NOTE TO STUDENTS**

To achieve a mastery of the course material, the Mathematics Department recommends that the student should be prepared to spend an average of 12 hours per week on this course.

### **INSTRUCTIONAL METHODS**

Instructional methods may include face-to-face or video lectures or demonstration, face-to-face or virtual discussion, individual or group activities including the use of visual aids, graphing calculators, computers and/or other technologies. Students may be expected to participate in these activities during class and/or outside of class. Instructors may require class participation, collaborative learning, and peer review.

### **UNITS OF INSTRUCTION**

**Unit 1:** Surveys, Sampling, and Data

**Unit 2:** Displaying Categorical and Quantitative Data

**Unit 3:** Descriptive Statistics

**Unit 4:** Randomness and Probability

**Unit 5:** Discrete Random Variables and Probability Models

**Unit 6:** The Normal and Other Continuous Distributions

**Unit 7:** Confidence Intervals for Means and Proportions

**Unit 8:** Hypothesis Tests for Means and Proportions

**Unit 9:** Comparing Two Samples

**Unit 10:** Inference for Counts: Chi-Square Tests

**Unit 11:** Correlation and Linear Regression

## **METHODS OF EVALUATION**

- Letter grades for the course will be awarded using a 90%-80%-70%-60% scale. A failing grade (of either E or EN) will be recorded if you earned less than a 60% in the course. The E grade will be recorded for those students who attempted at least 70% of the coursework, while the EN grade will be recorded for those students who did not attempt at least 70% of the coursework. Both the E and EN grades are considered failing grades.
- A comprehensive Final Exam will account for 30% of the course grade.
- Minitab/Excel lab exercises must account for 10% of the total course grade.
- The following are the requirements determined by your individual instructor: