

## Information about STAT 1400

Course Number: STAT 1400 Course Name: Statistical Concepts for Business

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

Prerequisite: A grade of "C" or higher in MATH 1025 or placement into MATH 1075

### **DESCRIPTION OF COURSE**

This course is designed to introduce students to statistical concepts focusing primarily on business applications. The course contains techniques in descriptive and inferential statistics and includes sampling techniques; data types; experiments; measures of central tendency; measures of dispersion; graphical displays of data; basic probability concepts; binomial and normal probability distributions; sampling distributions and Central Limit Theorem; estimating population parameters and hypothesis tests of population parameters for one sample; linear regression and forecasting with exponential smoothing. STAT 1400 is intended primarily for students pursuing an AAS degree in the business programs.

### **COURSE GOALS**

- To introduce students to the concepts, methods, and uses of statistics in business situations.
- To develop competence in analyzing data, using the calculator to construct graphs and compute statistics, and interpret the results.
- To analyze data using business software packages and interpret the results.

### **INSTITUTIONAL LEARNING GOALS**

This course addresses the following Columbus State general education goals:

- Critical Thinking
- Quantitative Skills

### **STATEMENT ON DIVERSITY, EQUITY, AND INCLUSION**

The CSCC Mathematics Department faculty value diversity of thought, perspective, and experience, and respect your identities (including but not limited to race, gender identity or expression, class, sexual orientation, religion, and ability). The education, rights, and well-being of all students are encouraged and cultivated. Our goal is to foster and support safe and inclusive learning environments with equitable opportunities for all students to participate, contribute, and succeed.

### **REQUIRED TEXTBOOK, CALCULATOR AND OTHER RESOURCES**

- **Essential Statistics**, 3<sup>rd</sup> Edition William Navidi and Barry Monk, McGraw-Hill Publishing, 2021. **(REQUIRED) ISBN: 9781260359794**. Access to the ebook and homework system is available through Instant Access via 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>.

- **Microsoft Excel.** This software is available in DH 104, DH107, and off-campus computer labs. It can also be downloaded on your own computer through your Outlook account (**REQUIRED**).

**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 9 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**

1. Basic Ideas
2. Graphical Summaries
3. Numerical Summaries
4. Probability
5. Discrete Probability Distributions
6. The Normal Distribution, Sampling Distribution and Central Limit Theorem
7. Confidence Interval Estimates
8. Hypothesis Testing
9. Correlation and Regression
10. Forecasting – Exponential Smoothing

## **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.
- Excel Labs and Collaborative Activities will account for 10% of the total course grade.
- Unit quizzes will account for a portion of the final grade.
- Two departmental tests will account for 50% of the total course grade (25% for each of 2 tests).
  - Midterm: Units 1 – 5
  - Final: Units 6 – 10
- The following are the requirements, up to 40%, determined by your individual instructor: