

**FORT VALLEY STATE UNIVERSITY**  
**College of Arts and Sciences**  
**Department of Mathematics and Computer Science**  
**Course Syllabus**

**COURSE INFORMATION:**

**Course:** STATISTICS FOR BUSINESS & ECON (3 Credit Hours Course)

**Course Schedule:** \_\_\_\_\_

**Course Delivery Method:** All students are required to have a laptop and/or computer with Wi-Fi connection. All contents (notes, video, tests and homework assignments) are available online via [MyOpenMath](#) Syllabus and discussion will remain here in [D2L](#).

**Semester Offered:** [Sample of] SPRING 2025

**INSTRUCTOR INFORMATION:**

**Instructor:** Professor xxxx xxxx

**Office Location:** \_\_\_\_\_

**Phone for Summer:** \_\_\_\_\_

**E-mail:** \_\_\_\_\_

**Office Hours:** TBA

**Office Hours: MW:** TBA

**TR:** TBA

**Note:** Scheduling meeting for office hours via email or phone call is highly recommended. During these hours, I may be reached at the phone or email listed above or may schedule a ZOOM or COLLABORATE-ULTRA meeting.

**COURSE DESCRIPTION (sample from FVSU).** Students acquire an understanding of descriptive statistical techniques as applied in analyzing business and economic data. Topics include frequency distribution, descriptive statistics, inferential statistics, probability concepts, index numbers, analysis of variance, correlation and simple and multiple linear regression models.

**COURSE MATERIALS/REQUIREMENTS.**

Prerequisite:

Textbook: [Introductory Business Statistics, 2E from OpenStax](#)

**Good news:** your textbook for this class is available for free online! If you prefer, you can also get a printed version at a very low cost.

**Technology:** You will need to login to two portals: [MyOpenMath](#) for course content and to do homework assignments and test-reviews/tests, and D2L for everything else (Discussion, Syllabus). The Course ID to register for [MyOpenMath](#) (ALG SPECIFIC) is: **229979**. The service is provided free of charge. Leave "Enrollment Key" blank when registering. Please also use only your real name and wildcat email address.

**Additional materials:** In addition to all technology required for (online) learning (laptop, wifi), a graphing calculator is **required** (TI-84 Plus is the recommended). Also, EXCEL and/or R/RStudio may be helpful.

**MAJOR AREA (BUSINESS) LEARNING OUTCOMES.** This course addresses the following program learning outcomes.

- Collecting data and utilizing statistical methods to test hypotheses and drawing inferences.
- Using graphing calculators and computers to solve computationally intense mathematical problems.

**COURSE SPECIFIC OBJECTIVES.** By the end of the semester, the student will be able to:

1. Sampling and Data

- Recognize and differentiate between key terms in statistics
- Apply various types of sampling methods to data collection.
- Create and interpret frequency tables

2. Descriptive Statistics

- Display data graphically and interpret graphs: stem-plots, histograms
- Recognize, describe, and calculate the measures of location of data: quartiles and percentiles
- Recognize, describe, and calculate the measures of the center of data: arithmetic and geometric mean, median, and mode
- Recognize, describe, and calculate the measures of the spread of data: variance, standard deviation, and range.

3. Probability

- Understand and use the terminology of probability
- Determine whether two events are mutually exclusive and whether two events are independent
- Calculate probabilities using the Addition Rules and Multiplication Rules
- Construct and interpret Contingency Tables
- Construct and interpret Tree Diagrams

#### 4. Discrete Random Variables

- Recognize and understand discrete probability distribution functions, in general
- Calculate and interpret expected values
- Recognize the binomial probability distribution and apply it appropriately

#### 5. Continuous Uniform Distributions

- Recognize and understand continuous probability density functions in general
- Recognize the uniform probability distribution and apply it appropriately

#### 6. The Normal Distribution

- Recognize the normal probability distribution and apply it appropriately
- Recognize the standard normal probability distribution and apply it appropriately
- Compare normal probabilities by converting to the standard normal distribution

#### 7. The Central Limit Theorem

- Recognize central limit theorem problems
- Classify continuous word problems by their distributions
- Apply and interpret the central limit theorem for means

#### 8. Confidence Intervals

- Calculate and interpret confidence intervals for estimating a population mean and a population proportion
- Interpret the Student's t probability distribution as the sample size changes
- Discriminate between problems applying the normal and the Student's t distributions
- Calculate the sample size required to estimate a population proportion given a desired confidence level and margin of error

#### 9. Hypothesis Testing with One Sample

- Differentiate between Type I and Type II Errors
- Describe hypothesis testing in general and in practice
- Conduct and interpret hypothesis tests for a single population mean, population standard deviation unknown
- Conduct and interpret hypothesis tests for a single population proportion

#### 13. Linear Regression and Correlation

- Discuss basic ideas of linear regression and correlation
- Create and interpret a line of best fit

- Apply the line of best fit to predict values
- Calculate and interpret the correlation coefficient
- Calculate and interpret outliers

**Table 1:**

Graded Course Activity	Weight	Coverage	Tentative Due Dates
Test 1	15%	Chapter 1 & 2	FEB 5
Test 2	15%	Chapter 3 & 4	MAR 12
Test 3	15%	Chapter 5, 6 & 7	APRIL 2
Test 4	15%	Chapter 8 & 13	APRIL 23
MyOpenMath Homeworks (about 18)	30%	See MyOpenMath Calendar at each assignment	See MyOpenMath Calendar at each assignment
Final Exam	10%	Chapter 1-8, 13 (Comprehensive)	MAY 7 (TBA)

## **GRADING POLICY.**

Tests (60%): There will be four 100-point tests. The total score for tests will be 400 points. No make-up will be given. To do the Tests, you need to complete the **Content** in [MyOpenMath](#) and the Review for each test.

Homework (30%): Homework problems selected from each section of the book are assigned and graded via MyOpenMath. You must complete and submit all homework assignments by the due dates shown in the system. Homework assignments reflect the minimum work expected.

Final Exam (10%): A comprehensive final exam covering all units and worth 100 points will be administered at the end of the semester (Jul 20). Review problems for the final are also posted in MyOpenMath.

### Grading Distribution:

Your **Midterm Average (MAV)** will be calculated based on the weighted average (out of 90) of your **Test Average (60%)** and **Homework Average (30%)**,

Your **Final Average (FAV)** will be calculated based on your **Test Average (60%)**, **Homework Average (30%)** and the **Final Exam (10%)**.

### Grading Scale:

Based on your **MAV**, your **Midterm Grade** will be calculated using the following scale:

A: 90 – 100; B: 80 - 89; C: 70 - 79; D: 60 - 69; F: below 60.

Based on your **FAV**, your **Final Grade** will be calculated using the following scale:

A: 90 – 100; B: 80 - 89; C: 70-79; D: 60-69; F: below 60

**GRADE TURNAROUND.** All assessments (homework assignments, exams, etc.) will be graded within one week's time or earlier. The instructor will provide all necessary feedback.

**LATE ASSIGNMENTS.** A grade of zero will be awarded for all late assignments including homework assignments and tests.

### **REQUIRED TEXTBOOK AND CALCULATOR.**

Every student must access or possess course required textbook and graphing calculator (TI 84+ is the recommended calculator). Exams and Quizzes require calculator.

**INTERNET RESOURCES.** Each student is encouraged to consult internet resources, resources available in youtube or google. Here are some good sites that I recommend (and I used their resources to complement this online course)

- [Khan Academy](#)
- [Triola Videos for TI 83/84 users](#)
- [Online Statistics Education: An Interactive Multimedia Course of Study](#)

**Student Academic Dishonesty:** Expulsion or suspension from the University or any lesser sanction may be imposed for the commission of offenses involving cheating or defraud on examinations. Examples of such offenses include giving assistance not authorized by the instructor in the preparation of an essay, laboratory report, examination or other assignment included in an academic course; taking or attempting to take, steal, or otherwise procure in an unauthorized manner, any material pertaining to the conduct of a class, including but not limited to examinations, laboratory experiments, and roll books; and plagiarizing

The appropriation of someone else's ideas, passages arguments, interpretation of events or factual information, in either hard copy or electronically, demonstrates a lack of integrity and is unacceptable at Fort Valley State University. Other examples of plagiarism include submitting someone else's work/assignment as one's own, submitting purchased papers as one's own, and submitting papers from the Internet as one's own. Students who are guilty of plagiarism are subject to disciplinary action. Acts of plagiarism must be reported to the Department Head, Dean, Vice President for Academic Affairs, and the Vice President for Student Affairs for appropriate action. (2006 – 2008 Fort Valley State University Undergraduate Catalog, 71-72.)

### **(ADA) AMERICANS WITH DISABILITIES ACT STATEMENT/POLICY**

**PANDEMIC/CATASTROPHIC READINESS STATEMENT:** In the event that this course is no longer able to meet face-to-face, students should log onto D2L and check their **e-mail** and **announcement** for updates on the course and upcoming assignments, quizzes, exams.

**Disclaimer:** The above schedule and procedures are subject to change in the event of extenuating circumstances.