



**Florida State University**

**Department of Statistics**

**STA 2023**

**Fundamental Business Statistics**

**Fall 2019**



Instructor: Oktay Akpolat

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**Office hours:** Mon & Wed 11:00 AM -12:00PM

**Office:** OSB 442

### **Course Information**

STA 2023: Fundamental Business Statistics, Section 0018, 3 Credit Hours

Class Meetings: August 26<sup>th</sup> to Dec 6<sup>th</sup>, MWF: 10:10 AM-11:00AM

Location: OSB 108

**Final exam:** Tuesday December 10<sup>th</sup>, 7:30 AM - 9:30 AM

### **Course Description**

Prerequisite: None.

Credit Hours: 3

The purpose of this course is to prepare students for further study and job preparation in the field of Business. It will emphasize understanding of data and interpretation of statistical analyses. It will require students to think of data, and report the results of their analyses, in context.

This course provides students with a background in applied statistical reasoning. Fundamental topics are covered including graphical and numerical description of data, understanding randomness, central tendency, of best fit, estimation of proportions, and statistical testing.

Statistical thinking, relevant ideas, themes, and concepts are emphasized over mathematical calculation. In this class students learn many of the elementary principles that underlie collecting data, organizing it, summarizing it, and drawing conclusions from it.

## Course Objectives

This course has been approved to meet FSU's Liberal Studies **Quantitative and Logical Thinking** requirements and is designed to help you become a critical analyst of quantitative and logical claims.

In order to fulfill the State of Florida's College mathematics and computation requirement the student must earn a "C-" or better in the course.

By the end of the course, students will demonstrate the ability to:

- i. Select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.
- ii. Use a variety of forms to represent problems and their solutions.
- iii. Use descriptive statistics and graphical methods to summarize data accurately.
- iv. Use inferential statistics to make valid judgments based on the data available.
- v. Describe the goals of various statistical methodologies conceptually.
- vi. Apply statistical techniques in the context of business processes, everyday life, and further studies in their discipline.
- vii. Develop a healthy skepticism toward statistical studies and their results based on a sensible consideration of the techniques employed.

## Required Materials

- (1) Class notes: You will be required to have either printed or electronic notes to fill in each class; *shells of the lecture slides will be posted on Canvas*
- (2) A recommendation of textbook (**not required**): The Practice of Statistics for Business and Economics, 4th ed. by Moore McCabe Alwan Craig Duckworth  
Publisher: W.H.Freeman
- (3) Web site: An FSU Canvas site will be maintained.
- (4) Calculator: Scientific Calculator (Preferably TI-84)

## Course Topics

- (1) Terminology/Initial ideas: population, sample, parameter, statistics, categorical, quantitative, statistical study process;
- (2) Sampling: simple random sample, systematic sampling, stratified sampling, cluster sampling, convenience sampling;
- (3) Graphs: bar charts (sketch and interpret), pie charts (interpret), histograms (sketch and interpret), stemplots (sketch and interpret);
- (4) Summary statistics: mean, quartiles, range, standard deviation, five-number summary, boxplot, mode;
- (5) Empirical rule;
- (6) Normal distribution: forward problems
- (7) Central Limit Theorem;
  
- (8) Probability: random process, four rules, probability models, addition rule for mutually, exclusive events;
- (9) Random variable: definition, expected values;
- (10) One-sample mean: obtain and interpret z-intervals, z-test, p-value;
- (12) One-proportion: z-interval, z-tests;
- (13) Correlation;
- (14) Simple linear regression.

## Grading

- (1) Attendance (10%) You are required to attend all classes. (**only 2 times no excused absences accepted**)
- (2) Homework (0%) Homework will be posted on Canvas but you will **NOT** be required to submission.
- (3) Quizzes (40%). There will be 3 quizzes during the semester. If you need to miss any quizzes, you must notify me in advance and provide university approved\* documentation. At the quiz you may use **one-sided self-planned self-handwritten** 8.5"x11" sheet of notes.
- (4) LSQA Exam (10%). Liberal Studies Quantitative Assessment. you may use **one-sided self-planned self-handwritten** 8.5"x11" sheet of notes.
- (5) Final exam (40%). At the final exam you may use **one-sided self-planned self-handwritten** 8.5"x11" sheet of notes
- (6) You may not use a cell phone as a calculator in the quiz or final exam.
- (7) No opportunities for grade improvement, after the Last Day of Class, so please do your best during semester.

(8) Overall grade:

FSU does not award A+	B+	87-89	C+	77-79	D+	67-69	F	≤59	
A	≥93	B	83-86	C	73-76	D			63-66
A-	90-92	B-	80-82	C-	70-72	D-			60-62

## Missing Exams and Quizzes:

Make-ups will **not** be given unless the student has official documentation for an excused absence; see the **University Attendance Policy** below for more information on excused absences. It is up to the discretion of the instructor as to how to handle excused absences. No documentation will be accepted any later than **one week after the missing exam**. All documentation will be emailed to me, please see below for steps on emailing me.

## Liberal Studies for The 21st Century: Quantitative and Logical Thinking

The Liberal Studies for the 21st Century Program at Florida State University builds an educational foundation that will enable FSU graduates to thrive both intellectually and materially and to support themselves, their families, and their communities through a broad and critical engagement with the world in which they live and work. Liberal Studies thus offers a transformative experience. This course has been approved as meeting the Liberal Studies requirements for Quantitative and Logical Thinking and thus is designed to help you become a **critical analyzer of quantitative and logical claims**. In order to fulfill the State of Florida's College mathematics and computation requirement the student must earn a "C-" or better in the course.

## University Attendance Policy

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who

have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

### **Academic Honor Policy**

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to ". . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, <http://fda.fsu.edu/Academics/Academic-Honor-Policy>.) It is your responsibility to appropriately acknowledge all sources that helped in your preparation of all submitted materials. See <http://wr.english.fsu.edu/College-Composition/Plagiarism-Exercises> for help!

### **Americans with Disabilities Act**

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Student Disability Resource Center; and
- (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the: Student Disability Resource Center

874 Traditions Way

108 Student Services Building

Florida State University

Tallahassee, FL 32306-4167

(850) 644-9566 (voice)

(850) 644-8504 (TDD)

[sdrc@admin.fsu.edu](mailto:sdrc@admin.fsu.edu)

<http://www.disabilitycenter.fsu.edu/>

### **Syllabus Change Policy**

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.

### **Sexual Misconduct and Title IX Reporting**

As an instructor, I am obliged to report all instances of sexual misconduct that I become aware of; I cannot hold such information confidential. If you would like to discuss your situation in confidence, you may contact the Victim Advocate Program (<https://dos.fsu.edu/vap/>), the University Counseling Center (<https://counseling.fsu.edu/>), the Employee Assistance Program (<https://eap.fsu.edu/>), or University Health Services (<https://uhs.fsu.edu/>).

### **Final Exam Rescheduling Policy**

***You may not take the final exam before final exams week.*** Individual students who need to reschedule the final exam for a different time during final exams week will need to

- (i) talk to me about it first and get my permission to reschedule,
- (ii) fill out the "Request to Reschedule Final Examination" form at

<https://artsandsciences.fsu.edu/students/undergraduate/forms-requiring-deans-approval/rescheduling-final-examination> and take it to the Dean of Arts and Sciences office at 010 LON to get it approved, and

- (iii) bring the approved form back to me ***by the last day of classes.***

If you experience a documented emergency that prevents you from observing the above deadline, contact me as soon as you are able to, and we'll take it from there.

**Tip**

- (1) Attend every class meeting and follow the instructor in class.
- (2) Read and consider all the material in the slides.
- (3) Pay attention to the examples in the slides and do all the homework.
- (4) Bring questions to class or office hours.
- (5) You may ask brief questions by email, but you may be asked to come in person.
- (6) When sending email, use your FSU email account and start the subject line with “STA 2023”.