

STA 2023-0019: Fundamental Business Statistics

Department of Statistics, Florida State University

Spring 2021

Instructor: Ye Eun Bae

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Office Hours (Zoom): Mondays & Tuesdays 2:00-3:00pm, or by appointment.

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Office Hours (Zoom): Thursdays 1:00-2:00pm, or by appointment.

Course Information

This course covers statistical applications in business, involving graphical and numerical descriptions of data, data collection, correlation and simple linear regression, elementary probability, random variables, Binomial and Normal distributions, sampling distributions, and confidence intervals and hypothesis tests for a single sample.

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.

Class Times and Location This class will be taught remotely and asynchronously on Canvas (canvas.fsu.edu) from Jan 6 to Apr 16. There are no scheduled class times nor any assigned meeting places. All content will be made available on Canvas.

Credit Hours 3

Materials

- Calculator: TI-84 or equivalent (such as TI-83, TI-83+, and TI-84+) calculator.

If you use any of the above model TI- calculator the cause can be extremely easy. So please borrow or buy one and use it for this class. It will save you a lot of time, energy, challenges when solving problems and doing the assessments.

- Textbook: A textbook is not required for this class. Instead, you will need to watch lecture videos and study the notes used in the videos.

Prerequisites None, but we recommend two years of high school algebra.

Special Note High school students who earn a “3” or better on the AP Statistics exam will be given credit for STA 2023.

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:

1. Select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.
2. Use a variety of forms to represent problems and their solutions.

The above two competencies will be assessed in the Liberal Studies Quantitative Assessment (LSQA) for STA 2122, which includes a written summary of results.

4. Use descriptive statistics and graphical methods to summarize data accurately.
5. Use inferential statistics to make valid judgments based on the data available.
6. Select the appropriate statistical tools to analyze a particular problem.
7. Describe the goals of various statistical methodologies conceptually.
8. Develop a healthy skepticism toward statistical studies and their results based on a sensible consideration of the techniques employed.

Assessments

Type	Count	Weight
Attendance Quizzes	5	10%
Quizzes	5	45%
LSQA	1	10%
Final Exam	1	35%
Bonus Questions	-	5%
Total		105%

Attendance (10%) There will five Attendance Quizzes given through Canvas throughout the semester. These quizzes are meant to be small checks to make sure you are watching lectures, and you will be given three attempts and unlimited time for each quiz. Your overall Attendance grade will be the simple average of your attendance quiz scores (each reported as a percentage rounded to two decimal places).

Quizzes (45%) There will be five take-home Quizzes, each of which will cover approximately two weeks' worth of material, given through Canvas. Your overall Quiz grade will be the simple average of your four highest-scoring Quizzes (each reported as a percentage rounded to two decimal places). That is, your lowest Quiz grade will be dropped.

Liberal Studies Quantitative Assessment (LSQA) (10%) There will be one LSQA, a university-mandated assessment covering one topic, given through Canvas. Your LSQA grade will be reported as a percentage rounded to two decimal places.

Final Exam (35%) There will be one cumulative Final Exam given through Canvas. The Final Exam is scheduled for April 19, 2021 at 3:00-5:00pm. Further instructions will be given as Final Exam Week approaches. Please see the Tentative Pacing Schedule for all other assessment dates. Your Final Exam grade will be reported as percentage rounded to two decimal places.

Bonus Questions (up to 5%) You will be able to get extra credit from at least one Bonus Questions given in each quiz.

Final instructions will be given prior to each assessment, but the following will generally apply:

- Each assessment will be open book, which means you can use your own notes, any material (e.g., notes, slides, emails, videos) I provide, or any other resources at your disposal (excluding other humans unless told otherwise).
- You will be allowed to use your calculator.
- You will not be using Honorlock.

Unless told otherwise (there will be opportunities for collaboration), under no circumstances will you be allowed during an assessment to:

- Share resources, equipment, work, or answers with other students.
- Receive help from other students or people.
- Give help to other students.

If you are unable to complete an assessment during its availability, there may be make-up opportunities (see the Make-Up Policy). Assessments that are not submitted will receive a grade of zero. When a makeup is submitted, the zero will be replaced with the earned grade.

Note on Technology-dependent Assessments This course is heavily technology-dependent. While we will do our best to work with you on technology issues, please be aware that if you take an assessment but we can find absolutely no record of the fact, then we will not be able to give you credit for it. Please **DO NOT USE SAFARI** when you take assessments on Canvas – please use Chrome or Firefox.

Grading

Grade Distribution (Letter & Overall Course Grades)							
A	93 – 105	B+	87 – 89	C+	77 – 79	D+	67 – 69
A-	90 – 92	B	83 – 86	C	73 – 76	D	63 – 66
		B-	80 – 82	C-	70 – 72	D-	60 – 62
						F	0 – 59

Your overall course grade will be calculated according to the following.

$$\begin{aligned}
 \text{Overall Course Grade} &= 0.10 \times \text{Attendance Grade} \\
 &+ 0.10 \times \text{LSQA Grade} \\
 &+ 0.45 \times \max(\text{Quiz Grade}) \\
 &+ 0.35 \times \min(\text{Final Exam Grade})
 \end{aligned}$$

Your letter grade will be assigned using the table above and the smallest whole number greater than or equal to your overall course grade (e.g., an overall course grade of 89.04 will be assigned an A- since 90 is the smallest whole number greater than or equal to 89.04).

Course Policies

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.

Grade Appeal Policy Assessments that are not submitted will receive a grade of zero. When a make-up is submitted, the zero will be replaced with the earned grade.

Grades will not be curved, and there will be no opportunities for extra credit, make-ups, or any other forms of grade improvement after the Last Day of Class (Apr 16).

Make-Up Policy Make-ups are for being unable to submit an assessment during its availability. Make-ups will not be given due to undesired performance on an assessment.

If you are unable to submit an assessment during its availability, then please email me immediately. You will have until Friday of the following week to make up the missed assessment unless you have a documented reason for being unable to do so. You will be allowed three make-ups without providing documentation, but you must provide documentation for all further make-up opportunities. If you do not complete a make-up according to the above guidelines, then the missed assessment will receive a grade of zero.

No make-ups will be given after the Last Day of Class. If you are unable to submit the Final Exam during its availability, then you must email me immediately.

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, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

Americans with Disabilities Act Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

- (1) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
- (3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided.

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

Office of Accessibility Services
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
<https://dsst.fsu.edu/oas/>

Email & Communication Please turn on the course notifications in Canvas by going to Account/Notifications/ and checking the Notify me right away option for all of items under Course Activities.

You may expect a response to your email within two work days (one work day in Summer).

If you email me, please do so from your my.fsu.edu account. If I have not responded within two working days, I encourage you to send me a follow-up email. You are also welcome to message me through Canvas, but my quickest responses will always come through email.

Lecture Videos Watching the lecture videos is equivalent to attending class and listening to lectures. We acknowledge that the lecture videos are not short, but remember that class time would have been 50 or 75 mins – not short either. On the bright side, however, you may pause the video at any time and return to it later – you would not have been able to do that with live lectures. Therefore, we fully expect you to watch the lecture videos in their entirety. Pause whenever you need to, but always be sure to return and finish watching the video.

Please note that the recorded lectures are the property of Florida State University and are made available only to the students enrolled in this class. Students are not permitted to share the recorded lectures with any other persons outside of this class. Copyrights of the recorded lectures are reserved by the instructor and Florida State University.

Recorded lectures are FSU properties and only available to students enrolled in this class. Students are not allowed to share the recorded lectures to any other people not enrolled in this class. Copyright of the recorded lectures are reserved by the instructors and FSU.

Sexual Misconduct and Title IX Reporting As an instructor, I am obliged to report all instances of sexual misconduct that I become aware of to the University's Title IX Director; 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/>), or pastoral counselors.

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 get it approved by the Dean of Arts and Sciences office, and

(iii) let me have the approved form 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.

Confidential Campus Resources

Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program
University Center A, Rm. 4100
(850) 644-7161
Available 24/7/365
Office Hours: M-F 8-5
<https://dsst.fsu.edu/vap>

University Counseling Center
Askew Student Life Center, 2nd floor
942 Learning Way
(850) 644-8255
<https://counseling.fsu.edu/>

University Health Services
Health and Wellness Center
(850) 644-6230
<https://uhs.fsu.edu/>

Tentative Pacing Schedule

Week	Holiday	Topics Covered	Assessments Due
Week 1 (Jan 6 - 8)		Introduction	First Day Attendance
Week 2 (Jan 11 - 15)		Summary Statistics	Attendance Quiz 1
Week 3 (Jan 18 - 22)	MLK Jr Day (Jan 18)	Summary Statistics	Quiz 1
Week 4 (Jan 25 - 29)		Normal Distribution	Attendance Quiz 2
Week 5 (Feb 1 - 5)		Central Limit Theorem	Quiz 2
Week 6 (Feb 8 - 12)		Simple Linear Regression	Attendance Quiz 3
Week 7 (Feb 15 - 19)		Simple Linear Regression	LSQA
Week 8 (Feb 22 - 26)		Probability	
Week 9 (Mar 1 - 5)		Probability	Quiz 3
Week 10 (Mar 8 - 12)		Random Variables	Attendance Quiz 4
Week 11 (Mar 15 - 19)		Binomial Distribution	Quiz 4
Week 12 (Mar 22 - 26)		One-Sample Confidence Intervals	Attendance Quiz 5
Week 13 (Mar 29 - Apr 2)		One-Sample Confidence Intervals	Quiz 5
Week 14 (Apr 5 - 9)		One-Sample Hypothesis Tests	
Week 15 (Apr 12 - 16)		One-Sample Hypothesis Tests	
Final Exam Week (Apr 19 - 23)		-	Final Exam on Apr 19