



STA 2023: Fundamental Business Statistics

Sections: 0021, 0026 & 0027

Department of Statistics

Florida State University

Spring 2024

COURSE INFORMATION

Course Website: <https://canvas.fsu.edu/>

Class Format: Online Asynchronous

Class Time and Location: The class will be taught online (no physical location) and asynchronously (no class timings).

Instructor: Sudipto Saha

- E-mail: ssaha2@fsu.edu
- Office Hours: by appointment only, please send e-mail to set up an appointment.

Online Mentor: Morgan Brennan

- E-mail: mb23w@fsu.edu
- Office Hours: by appointment only, please send e-mail to set up an appointment.

Please be aware that all Teaching Assistants who have been assigned to work with the instructor of this class will have access to your grades and academic accommodations information since it is not possible for the instructor alone to perform all the duties related to grading and the provision of academic accommodations.

COURSE DESCRIPTION

Credit Hours: 3

Prerequisite: 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.

Required Materials:

- A personal computer, reliable internet connection, and Chrome or Firefox browser.
- A TI-84 Plus or equivalent calculator. We will teach you how to use a TI-84 series calculator, but we cannot promise to be able to help with any other type of calculator.
- A textbook is NOT required for this class. All required course notes and exercises will be provided.

Please note that the materials provided by the instructor were put together for your individual use only. While you may share these materials with classmates, we ask that you do not share them with third parties who are not enrolled in this class. If you seek help outside of class, you may, of course, allow your helper to see the materials, but please do not allow them to make copies or in any other way take our material. We appreciate your co-operation in protecting our material. Thank you!

Recommended Textbook: The following free online textbook is an additional resource that you might find useful: *Introductory Statistics* from OpenStax, Print ISBN 1938168208, Digital ISBN 1947172050. www.openstax.org/details/introductory-statistics

The 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.

Lecture Videos: As the course is asynchronous, no live lectures would be performed; instead, lecture notes and lecture videos will be uploaded. Watching lecture videos is equivalent to attending class and listening to lectures. If you find that you are unable to watch an entire video in one go, you are encouraged to take a break and return to it later. Pause whenever you need to, but always be sure to return and finish watching the video.

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

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 2023, which includes a written summary of results. The LSQA forms a mandatory ten percent of the course grade. If you do not take it, you will not be permitted to pass the class, regardless of how well you perform on the other assessments. The LSQA will be an online assessment graded for accuracy; two attempts will be allowed; collaboration is not permitted; no internet sources are allowed apart from the course Canvas.

3. Use descriptive statistics and graphical methods to summarize data accurately.
4. Use inferential statistics to make valid judgments based on the data available.

5. Describe the goals of various statistical methodologies conceptually.
6. Apply statistical techniques in the context of business processes, everyday life, and further studies in their discipline.
7. Develop a healthy skepticism toward statistical studies and their results based on a sensible consideration of the techniques employed.

E-MAIL AND COMMUNICATION

- Please **turn on the course notifications on Canvas** by going to “Account / Notifications /” and checking the “Notify me right away” option for all the items under Course Activities.
- Please **do not reply to "notifications@instructure.com"**. Use the **mentioned e-mail id** or **Canvas inbox** while replying to us for any Canvas notifications.
- Always use your @fsu.edu e-mail id to communicate. Sending mail from personal e-mail id may not reach us due to filters. You may expect a response to your e-mail **within 2 working days**.
- We will communicate with you by sending e-mails to your @fsu.edu id and posting announcements on the course website. **Please check your e-mail and the announcements daily**.
- Please ask assessment-related enquiries at least 24 hours before the assessment is due to begin.
- Always include your name when you e-mail us. If we need to know this information in order to answer your query and you have not provided it, you may not get a response.

FIRST DAY ATTENDANCE AND DROP/WITHDRAWAL DEADLINE

- Although the class is online, first day attendance is still mandatory per university regulations. I expect each of you to take the “**First-Day Attendance**” Quiz on the very first day of your class – **January 8th**. Students who register for this course after January 8th, need not take “**First-Day Attendance**” Quiz.
- Drop and Withdrawal deadlines are given in the University’s academic calendar at https://registrar.fsu.edu/registration_guide/spring/academic_calendar/

ASSESSMENTS AND GRADING STRUCTURE

Assessments			
Type	Count	Weight	Total Weight
Quiz	6 (drop 1)	11%	55%
Final Quiz	1	15%	15%
LSQA	1	10%	10%
Homework	4	5%	20%
		Total:	100%

1. All the assessments will be online, through Canvas.
2. All the assessments will have different time limits, which will be communicated before each assessment.

3. There will be **6 Quizzes** and **1 Final Quiz**. The lowest graded quiz among the first **6 Quizzes** will be dropped at the end of the semester. The **Final Quiz** will NOT be dropped. The topics covered in each quiz will be communicated beforehand. You will get two attempts in each quiz, and the higher score will be kept.
4. There will be **1 Liberal Studies Quantitative Assessment (LSQA)**, which will cover only one topic. The topic will be communicated accordingly. LSQA is **mandatory** to pass the course and will NOT be dropped. You will get two attempts, and the higher score will be kept.
5. There will be **4 homework assignments** in total. The topics covered in each homework assignment will be communicated accordingly. You will get unlimited attempts, but **ONLY** the last attempt will be graded.

Instructions: Final instructions will be given prior to each assessment, but in general you must follow the instructions below.

- TI-84 Plus (or equivalent) calculator is allowed. You can also use the TI Emulator (software version).
- All the assessments are open book, open material, and no online proctoring service will be used.
- Discussion or any kind of collaboration with other students for all the Quizzes, Final Quiz and LSQA is **STRICTLY PROHIBITED**.
- You can use scratch papers to solve problems, but you don't need to upload/send those scratch papers.

Additional instructions regarding homework assignments: Final instructions will be given prior to each homework assignment, but in general you must follow the instructions below.

- Discussion is allowed **ONLY** for homework assignments. You are strongly encouraged to work together with your classmates in this class.
- All homework assignments are required to be submitted individually and **NOT** in groups.
- **Please avoid plagiarism.** It means, you can discuss/work on a problem with your classmates, but your answer should **NOT** exactly be same. You should have your own words to write an answer.
- You will get unlimited attempts to submit homework assignments, but **DO NOT** submit multiple files as one attempt. In one attempt, your submission should consist of **a single file** with the entire assignment. It means, you should **NOT** submit one file with the first half of the assignment and a second file with the other half of the assignment. If you do so, those will be considered as multiple attempts and only the latest one will be graded.
- If you take multiple valid attempts, then **ONLY** the latest attempt will be graded.
- The homework assignments can only be submitted in Microsoft Word or PDF format.

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 submit an assessment but we don't 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**.

Completing assessments in a timely manner so that you can stay on track:

Please note that missed assessments need to be completed in order. Therefore, an extension on a specific assessment will not be granted if you have prior outstanding assessments. For example, if you request an extension

on Assessment 8 but you did not complete Assessment 3, then you will be denied an extension on Assessment 8 but you may receive an extension on Assessment 3. The last day of classes will be the deadline for all assessment submissions, including assessments where extensions were granted, but not including the final assessment. In addition, since this is a semester-long college course, designed to be taken one step at a time throughout the semester rather than hurriedly over the span of a few days, or a few weeks, we will not allow extensions on due dates during the last two weeks of classes unless you have completed at least eighty percent of the assessments given up to that point, including the LSQA. For example, if the LSQA and nine other assessments have been given by the start of the last two weeks of classes, then you will need to have completed the LSQA and at least seven other assessments in order to receive any extensions on due dates during the last two weeks of classes.

Overall Course Grade:

Grade Distribution	
Letter Grade	Overall Percentage
A	93 – 100
A-	90 – 92
B+	87 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	73 – 76
C-	70 – 72
D+	67 – 69
D	63 – 66
D-	60 – 62
F	0 – 59

Your overall percentage will be calculated according to your assessment grades (reported as percentages) and the weights given to those assessments. Your letter grade will be assigned using the table above by rounding the overall percentage to the smallest whole number greater than or equal to that (e.g., an overall percentage of 89.01% will be assigned an A- since 90% is the smallest whole number greater than or equal to 89.01%).

No make-ups, no extra credit assignments, no curving grade, and in general, no opportunities for grade improvement will be allowed after the Last Day of Class. So, please submit every assessment on time and do your best throughout the term. **Assessments that are not submitted will receive a grade of zero.** These will be replaced with earned grades if make-ups of the same are submitted later.

Assessment Grade Appeal: During the term, if you believe that an assessment has been improperly graded, then you must e-mail me and discuss it with me **within 2 working days** after your grade for that assessment is posted on Canvas. If you get an answer wrong in an assessment and believe that you may be right, you are allowed to discuss the question, the correct answer, and your justification with me. The problem will be reviewed and if you are correct, you will receive points back for that question. If I do not hear from you within 2 working days, I will assume that the grade is accepted and subsequent requests for a grade appeal may not be granted. **Assessment grade appeals will not be allowed after the Last Day of Class.**

Missing Grade: Please check your grades on the course website every day to make sure your latest grades are posted; please do this even if you already know your grade. If a grade is not posted, **alert me immediately via e-mail**. It is important that you inform me via e-mail so that there is a record of the fact that you reported the matter. If you report a missing grade **within 2 working days** after the grade is posted, I will do my best to locate the missing grade.

Receiving a grade of “Incomplete”: A request for a grade of “Incomplete” will

- **NOT be granted** if you have completed the coursework, including the assessments that cannot be dropped, and excluding the drops and allowable absences.
- **be granted** only if both of the following conditions are satisfied:
 - a) the only assessment that you have yet to take is the Final Quiz, and
 - b) your overall percentage excluding the Final Quiz is a passing grade (70% or above).

COURSE POLICIES

Make-up Policy:

Make-ups will not be allowed due to undesired performance in an assessment. Make-ups are allowed only if you have a **religious holiday** fallen on the assessment days or a **genuine reason** for not submitting an assessment in the timely manner. If you could not submit an assessment by the due date for some reason, **let me know within the next 2 working days post the due date** and I would assign you a make-up only if your reason is genuine and if you can show proper documentation **before the make-up date**. If there is any medical reason for not submitting an assessment, then a medical certificate or similar document needs to be sent to me **before the make-up date**. A missed make-up will receive a grade of zero.

Grade Appeal Policy:

If you are not satisfied with your final course grade, then please e-mail me within **3 calendar weeks** after your final grade has been posted on Canvas and we will discuss.

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.

Final Exam Rescheduling Policy:

You may not take the final exam (Final Quiz in this course) 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 approval to reschedule,
- ii) fill out the “Request to Reschedule Final Examination” form at <https://artsandsciences.fsu.edu/sites/g/files/upcbnu321/files/2022->

[01/Request to Reschedule 01032022.pdf](#) and get it approved by the Dean of Arts and Sciences office, and

iii) the form needs to be submitted to the College of Arts and Sciences before 5 pm on 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.

Sexual Misconduct and Title IX Reporting:

As an instructor, I am obliged to report all instances of sexual misconduct and other Title IX issues 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/>), Counseling & Psychological Services (<https://counseling.fsu.edu/>), the Employee Assistance Program (<https://eap.fsu.edu/>), University Health Services (<https://uhs.fsu.edu/>), or pastoral counselors. If you would like to submit a report to the University's Title IX Director, please go to <https://report.fsu.edu/>.

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.

If you are absent for an extended period of time and/or you do not respond to emails from the instructor over an extended period of time, the instructor reserves the right to deny access to assessments or limit the number of allowed attempts until attendance and/or contact is resumed.

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/academic-resources/academic-integrity-and-grievances/academic-honor-policy>)

Academic Success Statement:

Your academic success is a top priority for Florida State University. University resources to help you succeed include tutoring centers, computer labs, counseling and health services, and services for designated groups, such as veterans and students with disabilities. The following information is not exhaustive, so please check with your advisor or the Department of Student Support and Transitions to learn more.

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.

Students with disabilities needing academic accommodation should:

- 1) register with and provide documentation to the Office of Accessibility Services;
- 2) request a letter from the Office of Accessibility Services to be sent to the instructor indicating the need for accommodation and what type; and,
- 3) meet (in person, via phone, email, skype, zoom, etc...) with each instructor to whom a letter of accommodation was sent to review approved accommodations.

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 the latest version of this statement and 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>

Academic accommodation will be provided as soon as possible after email notification from the OAS is received. Academic accommodations are not retroactive, so they will not apply to lectures/lessons and assessments that took place before verification was received.

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>

Counseling & Psychological Services
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/>

Disaster:

At times of severe weather or other disasters, please check your FSU email, your text messages, the Seminole Safe App and FSU Alerts (<https://alerts.fsu.edu/>) as often as you can to keep yourself informed. In the absence of internet access, you may call 850-644-4636 for updates. Check for the latest information every day before you leave home so that you don't miss any last-minute announcements. If the University closes due to a disaster, we will all be informed via the above means, and classes and office hours will be automatically cancelled even if I don't announce it. As long as the University remains open, classes will still be on. However, please practice safety first. If it will be unsafe or impracticable for you to come to class or complete an assignment due to the effects of a disaster, please do not attempt to do so. You will not be penalized, we will work with you.

You can sign up to receive alerts via SMS text messages here: <https://emergency.fsu.edu/services/fsu-alert-emergency-notification-warning-system/fsu-alert-sms-text-messages>.

See here for other ways in which FSU delivers warnings: <https://emergency.fsu.edu/services/fsu-alert-emergency-notification-warning-system>.

Classes Subject to HB233 Recording:

In this class, consistent with state law and university policy, students are permitted to make recordings of class lectures for personal use only. As noted, sharing, posting, or publishing classroom recordings may subject you to honor code violations and legal penalties associated with theft of intellectual property and violations of other state law. Moreover, students and educators have expressed concern that recording classroom activities may negatively impact the learning experience for others, especially in classes that involve questions, discussion, or participation. To protect a learning environment in which everyone feels free to experiment with ideas, we ask you to refrain from recording in ways that could make others feel reluctant to ask questions, explore new ideas, or otherwise participate in class. Students must monitor their recording so that they do not include participation by other students without permission. Students with disabilities will continue to have appropriate accommodation for recordings as established by the Office of Accessibility Services.

TENTATIVE PACING SCHEDULE

Week	Monday	Tuesday	Wednesday	Thursday	Friday
Jan 08 – Jan 12	Prerequisite Math Skills & Introduction				
Jan 15 – Jan 19	MLK Jr. Day	Summary Statistics			Quiz 1 due at 11:59 pm
Jan 22 – Jan 26	Summary Statistics				
Jan 29 – Feb 02	Probability				Quiz 2 due at 11:59 pm
Feb 05 – Feb 09	Probability				
Feb 12 – Feb 16	Random Variables				Quiz 3 due at 11:59 pm
Feb 19 – Feb 23	Normal Distribution				Homework 1 due at 11:59 pm
Feb 26 – Mar 01	Central Limit Theorem				Quiz 4 due at 11:59 pm
Mar 04 – Mar 08	Simple Linear Regression				Homework 2 due at 11:59 pm
Mar 11 – Mar 15	Spring Break. No Class.				
Mar 18 – Mar 22	Simple Linear Regression				LSQA due at 11:59 pm
Mar 25 – Mar 29	Binomial Distribution				Homework 3 due at 11:59 pm
Apr 01 – Apr 05	Binomial Distribution				Quiz 5 due at 11:59 pm
Apr 08 – Apr 12	One Sample Confidence Interval				Quiz 6 due at 11:59 pm
Apr 15 – Apr 19	One Sample Hypothesis Test				Homework 4 due at 11:59 pm
Apr 22 – Apr 26	One Sample Hypothesis Test				
Apr 29 – May 03	Last Week. No Class.		Final Quiz due at 11:59 pm	Last Week. No Class.	

**All times are in ET. Florida observes Daylight Saving Time.*