

STA2023 Introduction to Statistics I

Syllabus – Summer B 2024

Class Number: 13246

Class Time: M, T, W, R, F | Period 5 (2:00 PM - 3:15 PM)

Location: LAR 0310

Instructor: Yuhua Zhang

Email: yuhua.zhang@ufl.edu

Office: FLO 101D

Office Hours: TWR 4:00 PM – 5:00 PM (in person) or by appointment through email

Zoom Link: <https://ufl.zoom.us/j/7346912034>

Phone Number: 352-392-1941

Note: Email is the preferred method of communication and make sure the subject of the email contains "STA 2023".

Teaching Assistant: Swarnali Raha

Email: swarnali.raha@ufl.edu

Office: FLO 100A

Office Hours: T 11AM - 12PM, F 10:30AM - 12:30PM (online)

Zoom Link: <https://ufl.zoom.us/j/9181735766>

General Education Objective and Student Learning Outcomes

This course satisfies general education credits in the mathematical sciences. A minimum grade of C is required for general education credit. Students learn how to summarize data and how to make appropriate decisions based on data. (This course is the general education category of M.)

General Education Objective (Mathematics)

Courses in mathematics provide instruction in computational strategies in fundamental mathematics including at least one of the following: solving equations and inequalities, logic, statistics, algebra, trigonometry, inductive and deductive reasoning. These courses include reasoning in abstract mathematical systems, formulating mathematical models and arguments, using mathematical models to solve problems and applying mathematical concepts effectively to real-world situations.

During the semester the students will be given an introduction to the three main aspects of statistics: design (of experiments/surveys), description (of data collected) and inference (the extension of conclusions from the data gathered in the sample to the larger population). These concepts will be presented through lectures three times a week and lab once a week. They will also learn about the normal and binomial distributions as well as the methodology of confidence intervals and significance tests. From the methods that they learn in class they

will be able to critique real world surveys and experiments, interpret graphs in newspapers and magazines as well as conduct basic statistical inference for one or two groups.

General Education Student Learning Outcomes (SLOs)

Content: Students demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.

Communication: Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.

Critical Thinking: Students analyze information carefully and logically from multiple perspectives, using discipline specific methods and develop reasoned solutions to the problems.

Content: Students will learn critical terminology, concepts, methods, and theories during lecture. These concepts will include terminology to describe one and two samples, discuss surveys/experiments, basic probability theory, sampling distributions, and one and two group inference. The students will be assessed on these terms and concepts during the weekly quizzes and the exams. Students will also demonstrate their competence in identifying the appropriate formulas to use for each situation and using those formulas correctly.

Communication: The students will use verbal and written communication to discuss central statistical concepts in their weekly labs. These concepts include description of data sets, sampling methods and interpretations of inference methodology.

Critical Thinking: The students will be asked to critically think about trustworthiness of surveys and experiments presented in the media. Additionally, students will learn how to conduct significance tests, a statistical method to logically determine if there is enough evidence for a hypothesis. Students will learn how to state the null and alternative hypotheses (different perspectives) and then to use the data collected to determine if there is enough evidence to support the alternative hypothesis using methods central to the field of statistics. The students will be tested on these concepts in the quizzes and on three of the exams.

Required Materials and Supplies Fees:

Lecture Notes:

Available at the course homepage in Canvas. These are needed to follow along with the lectures and to fill in the blanks while following the lectures. You can use them electronically if you can take notes on a pdf file or print them.

Recommended Materials:

Title: Statistics: *The Art and Science of Learning from Data*, 5th Edition

Author(s): Alan Agresti and Christine Franklin

ISBN-13: 978-0133860825

Scientific Calculator:

It should have basic statistical functions (mean, and standard deviation). Graphing calculators are not allowed to be used during the exams.

Additional Course Fees: \$1.74

Course Website in CANVAS: <https://ufl.instructure.com/>

This is the portal for UF's E-learning website. You log on using your Gator link username and password to access the course materials, announcements, grades, online quizzes etc.

Course Schedule:

	Section	Topic
Week1	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3	Exploring Data with Graphs; Measures of Center, Spread and Position; Regression.
Week2	3.4, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3	Regression; Data from Surveys/Experiments; Probability.
Week3	5.4, 6.1, 6.2, 6.3, 7.1, 7.2	Probability in our Daily Lives; Probability Distributions; Sampling Distributions.
Week4	8.1, 8.2, 8.3	Confidence Intervals for the Population Proportion; Confidence Intervals for the Population Mean.
Week5	9.1, 9.2, 9.3, 9.4, 10.1	Significance Tests
Week6	10.1, 10.2, 10.4	Comparison of Two Proportions and Two Means.

Note: This schedule is subject to change based on the pace of the class or unforeseen circumstances.

Online Quizzes

There will be approximately ten online quizzes, administered through Canvas. You will have three tries for each quiz (with questions randomly generated) over a period of several days. Each quiz will be worth 10 points, and all together will count for 25% of your grade. Quiz details will be announced in class and the course website.

Exams

There will be three exams given during the semester, each worth 100 points and 25% of your

grade. They will take place in person during our regular class period.

In case of conflict or illness, if a student is unable to take an exam at the scheduled time, they must get in touch with the instructor prior to the exam time for any arrangements to be made for makeup exams. Each case will be reviewed individually. Valid and detailed documentation is a prerequisite under such extenuating circumstances. A grade of zero is the minimum punishment of any type of dishonesty on an exam.

Exam 1 Chapter 1-5 7.16

Exam 2 Chapter 6-8 7.29

Exam 3 Chapter 9-10 8.8

Grades

Grade Structure:

Exam 1 25% Exam 2 25% Exam 3 25% Quizzes 25%

Grading Scale:

A 90% to 100% A- 87% to 89% B+ 84% to 86% B 80% to 83% B- 77% to 79%

C+ 74% to 76% C 70% to 73% C- 64% to 69% D 60% to 63%

(No D+ or D- given) E 59% and below

UF Grading Policies: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Course Policies

Email to Instructor – will be answered within one working day in most cases. Please be aware that statistical questions should be answered in person (in class or during office hours) since they often require pictures and formulas that make it very hard to communicate through email.

Privacy Policy - Student records are confidential. Only information designated "UF directory information" may be released without your written consent.

Privacy in Zoom Office Hours: The TA's office hours are open to all students to discuss course material. Any student who joins can listen in on your questions, as they would in the in-person tutoring room. However, the instructor's office hours will only admit one student at a time, with any others being placed in a waiting room. Students can discuss any personal issues or problems with the instructor during office hours with the guarantee of confidentiality. None of the office hours will be recorded.

Students with Disabilities: Students with disabilities requesting accommodation should first register with the Disability Resource Center (352-392-8565, <https://disability.ufl.edu/>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which will be sent to the instructor. Students with disabilities should follow this procedure as early as possible in the semester and need to do this every

semester. Accommodation will not be arranged retroactively, but only forward from the day that the letter was received. Special circumstances should be discussed with the instructor.

University's Honesty Policy: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

Grading: Grades will be changed only when an error has been made; negotiation is not appropriate.

Incompletes are only assigned when extraordinary circumstances (such as an accident, or extended hospitalization), arising after the date for dropping the course, prevent the student from completing the course requirements. Having a failing grade in the course is not a valid reason for requesting an Incomplete. Information on Medical Withdrawal can be found at <https://umatter.ufl.edu/>. Information on how to Drop a class can be found in UF's Academic Catalog <https://catalog.ufl.edu/>

Instructor / Course Evaluations: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals or in their Canvas course menu under GatorEvals.

Other University Services

U Matter, We Care: If you or someone you know is in distress, or needs information on services offered at UF, please contact them: 352-392-1575 umatter@ufl.edu
<https://umatter.ufl.edu/>

Student Health Care Center: 352-392-1161 <https://shcc.ufl.edu/>

University Police Department, 352-392-1111 (or 9-1-1 for emergencies)
<http://www.police.ufl.edu>

E-learning technical support – contact the UF Computing Help Desk:
<http://helpdesk.ufl.edu/>

phone: 352-392-4357 e-mail: helpdesk@ufl.edu.