

STA2023 Statistical Methods 1 (GE Core)

Syllabus Spring 2026

Class Numbers: 14437, 14438, 14439, 14441, 14442, 14443, 14444, 14458, 14459, 14460, 14461, 14464, 14465, 14466, 14488, 14489, 14490.

INSTRUCTIONAL TEAM

Course Coordinator	Lab Coordinator	Teaching Assistants
Stephanie Stine s.stine@ufl.edu Griffin Floyd 117B 352-273-2975 Office Hours: In-person: MW 10:30am – 12:00pm, online: R 10:30am – 12:00pm, or by appointment.	Karina Gelis-Cadena kgeliscadena@ufl.edu Griffin Floyd 103A 352-294-3913 Office Hours: In-person: MWF 1:00pm – 2:30pm.	TAs names TBA. Contact using Canvas email. Tutoring Room - available around 24 hours per week, mixture of in-person (Griffin Floyd Hall 104), and online.
Contact Course Coordinator for questions about quiz and exam grades, and for general questions about the course not answered on the syllabus or the course homepage in Canvas.	Contact Lab Coordinator for questions about the Labs.	Contact TAs for incorrectly recorded grades on Lab worksheet, and for assistance with the course material in the Tutoring Room (see Canvas for schedule)

Course website on Canvas at <https://elearning.ufl.edu/>

Technical Issues: Contact the UF Computing Help Desk at <https://helpdesk.ufl.edu/> or call 352 392 4357.

UF POLICIES

This course complies with all UF academic policies. For information on those policies and for resources for students, please see [Academic Policies & Resources](#).

COURSE DESCRIPTION

In this course, students will utilize descriptive and inferential statistical methods in contextual situations, using technology as appropriate. The course is designed to increase problem-solving abilities and data interpretation through practical applications of statistical concepts. This course is appropriate for students in a wide range of disciplines and programs.

There are two major parts to this course:

- 1. Data:** Includes graphical and numerical summaries to describe the distribution of a variable, or the relationship between two variables (chapters 1, 2 and 3, approximately 3 weeks), and data production to learn how to design good surveys and experiments, collect data from samples that are representative of the whole population, and avoid common sources of biases (chapter 4, 1 week.)
- 2. Probability and Inference:** Using the language of probability and the properties of numerical summaries computed from a random sample (chapters 5, 6 and 7, 4 weeks), we learn to draw conclusions about the population of interest, based on our random sample, and attach a measure of reliability to them (chapters 8, 9, 10 approximately 8 weeks).

COURSE OBJECTIVES

The primary goal of the course is to recognize how the process of posing a question, collecting data relevant to that question, analyzing the data, and interpreting the data can help find answers to real world problems.

GENERAL EDUCATION OBJECTIVE (MATHEMATICS)

Please read the [General Education Subject Area Objectives](#) to view the General Education Objectives (Mathematics).

GENERAL EDUCATION STUDENT LEARNING OUTCOMES (SLOs)

- Students will visualize and summarize data using descriptive statistics.
- Students will apply basic probability concepts to draw reasonable conclusions.
- Students will employ concepts of random variables, sampling distributions, and central limit theorem to analyze and interpret representations of data.
- Students will choose an appropriate method of inferential statistics, including confidence intervals and hypothesis testing, to make broader decisions based on sample data.
- Students will model linear relationships between quantitative variables using correlation and linear regression.

This course satisfies general education credits in the mathematical sciences. Students learn how to summarize data and how to make appropriate decisions based on data.

STUDENT LEARNING OBJECTIVES

There are three categories to Student Learning Objectives: Content, Critical Thinking and Communication. The definition of these categories for General Education courses are found here [General Education Student Learning Outcomes](#).

Content

Subject Area: In this course, students will learn critical terminology, concepts, methods, and theories during the lectures. 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. Students will also demonstrate their competence in identifying the appropriate formulas to use for each situation and using those formulas correctly.

Assessments: Students will be assessed on these concepts on Module quizzes, Labs, and Exams.

Critical Thinking

Subject Area: In this course, students will be asked to critically think about the trustworthiness of surveys and experiments presented in the media. 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.

Assessments: Students will be assessed on these concepts on Module quizzes, Labs, and Exams.

Communication:

Subject Area: In this course, students will use verbal and written communication to discuss central statistical concepts. These concepts include description of data sets, sampling methods and interpretations of inference methodology.

Assessments: Students will be assessed on these concepts during the Labs.

REQUIRED MATERIALS

Lecture Notes – these are needed to follow along with the lectures. You can download or print them by clicking the Materials link on the course home page in Canvas.

Lab Worksheets – needed for the Lab portion of the course and are available to print from the Materials link on the course home page in Canvas.

Scientific Calculator - You will need a calculator with some basic statistical functions: mean and standard deviation. Many inexpensive calculators (around \$15) have these functions; check the manual or look for the following symbols: x-bar and either s or σ -1. Graphing calculators are **not allowed** on exams.

OPTIONAL MATERIALS

Textbook (recommended): *Statistics: The Art and Science of Learning from Data* by Agresti, Franklin, Klingenberg, 5th edition, Pearson, 2021. You need to have access to the textbook to complete the *suggested* homework problems for each module. These are good practice to learn the material but *do not count for your grade*. There will be copies of the book available at the Marston Science Library and in our Tutoring Room. Alternatively, you can opt in to UF All Access to get the book as an etext which allows you to complete the homework problems electronically, check your answers, and use the homework help for extra videos and examples through Access Pearson. See Canvas for more details.

MATERIALS AND SUPPLIES FEES

There are additional course fees of \$1.25.

COURSE LAYOUT

The course consists of 36 Modules which include:

- Class material offered as live lectures, recorded live lectures, or pre-recorded interactive lecture videos.
- A short online quiz for each Module.
- Suggested homework problems from the textbook and additional examples.

10 Labs to be completed weekly, in person, in CSE E231.

3 Exams to be completed in person.

LECTURES

In this hybrid course ALL students, regardless of which section they are registered for, can choose to

- Attend in person the live lectures offered MWF 2nd period (8:30am-9:20am) in MCCC 0100.
- Watch the recordings of those lectures, available in Canvas about an hour after the live lecture ends (for technical problems contact the UF Help Desk <http://helpdesk.ufl.edu/>).
- Access the material through the interactive lecture videos available in the Modules in Canvas.

QUIZZES

There will be a short, 5-point quiz associated with each module. These online Module Quizzes will be completed in Canvas and students will have three chances for each quiz, with the highest score counting towards your grade. All quizzes are open from the beginning of the semester and will close at 11:59pm EST one business day after the live lecture is taught. See calendar in Canvas for the deadlines. Students can work ahead if they need to. Remember, all the material is available as interactive lecture videos which are posted from the start of the semester.

Please complete the quizzes early if you have travel plans, religious observances, sports or club events, or any other conflict whether approved by the university or not. Students are expected to complete all module quizzes before the

deadline. Appropriate written documentation will be required for deadline extensions to be considered. At the end of the semester, the lowest three Module quiz scores will be dropped.

For technical problems contact the UF Help Desk <http://helpdesk.ufl.edu/>

LABS

Students are required to attend Lab in person once a week, according to the section which they are registered for. Labs meet in CSE E231, which is located close to Turlington and the Marston Science Library. Lab Worksheets are posted on the Materials page in Canvas. There are 10 Labs during the semester, each worksheet graded out of 10 points.

To get credit for the Lab, you must:

- Bring the correct printed lab worksheet to the Lab.
- Attend the section you are registered for.
- Be on time. Students will not get credit for the activity if they are more than five minutes late.
- Sign the attendance sheet for each Lab to show you arrived on time. Late students disrupt the activity and create problems for the rest of the students and the TA, so it will not be tolerated.
- Turn in the Lab worksheets to the section TA **before** leaving Lab that day.

NOTE: If you know you will regularly have trouble attending the Lab you are registered for, or being on time, you **must change Lab sections immediately**. This includes conflicts with travel, religious observances, sports or club events, or any other conflict whether approved by the university or not. There are usually plenty of opportunities to change sections during Drop/Add period. After Drop/Add is over, you will need to contact the Lab Coordinator to see if any changes are possible. See the top of this syllabus for the Lab Coordinator's contact information.

Makeup Labs: Students are expected to complete all Labs in person during the assigned day and time for their section. To allow for situations such as illnesses or emergencies, **two** makeup Labs will be available in Canvas during the final three days of classes. No excuses are necessary to complete these makeup Labs.

Extenuating Circumstances: The two makeup Labs are meant for situations when a student is unable to complete the assignment at the appropriate time. These makeups cover all situations including illness, family emergencies, travel, computer or transportation trouble, etc. They should be used judiciously. In very rare instances these makeup opportunities are not enough due to a student experiencing extended hospitalization or illness, or some catastrophic event during the semester. In these cases, the student must meet with the Course Coordinator during office hours with appropriate documentation for all of their missed assignments. Each case will be reviewed individually.

EXAMS

There will be three assembly exams, each worth 100 points. The two midterms are given at night, and the last one during final exam week. Each exam consists of 33 multiple choice questions, each worth 3 points, which totals 99 points. You can earn the remaining 1 point by bringing a picture ID to the exam and by bubbling in your name, UF ID# and test code (listed on the front page of the exam) correctly. Exams will cover a larger amount of material than the quizzes and will also place more emphasis in the understanding of concepts and ideas behind the formulas.

Room assignments for each exam will be announced in class and on the course website. Bring to the exam your UFID number, picture ID, no.2 pencils and eraser for completing the bubble sheets, and a scientific calculator. Graphing calculators are **not allowed** on the exam. Accessing notes and formulas from the course during the exam is cheating. Accessing your cell phone or communicating with another individual during the exam is also considered cheating. Academic dishonesty on any exam will be considered as violating the honor code. It will be reported via the SCCR process.

Exams	Date	Time	Chapters in Book	Modules
Exam 1	Tuesday February 24th	8:20pm – 10: 00pm (AT NIGHT)	Ch. 1 – Ch. 6 Sec. 3	1-16
Exam 2	Monday March 30th	8:20pm – 10:00pm (AT NIGHT)	Ch. 7 Sec. 1 – Ch. 9 Sec. 2	17-26
Exam 3	Tuesday April 28th	5:30pm – 7:10pm	Ch. 9 -- Ch. 10 Sec. 4	27-36

Makeup Exam Policy:

- In case of conflict with a class: Assembly exams have priority over regularly scheduled classes. The instructor for the other class must allow you to make up any work you miss because of an assembly exam. Contact them early to make arrangements. This is a University of Florida policy, as stated on the Registrar's website <https://catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx>
- In case of conflict with another exam: Assembly exams have priority over time-of-class exams. If you have two assembly exams scheduled for the same day and time, the course with the higher number has priority. This is a University of Florida policy, as stated on the Registrar's website (<https://catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx>) Contact instructor of the appropriate class early to make arrangements for a makeup exam. Do not wait until the last minute. If you need to schedule a makeup exam for STA2023 because it conflicts with another assembly exam for a course with a higher number, you must contact the STA2023 Course Coordinator **at least one week prior** to the regularly scheduled exam.
- In case of sudden illness or emergency: Contact the STA2023 Course Coordinator as soon as you realize you will be unable to take the test at the scheduled time and prior to the end of the day after the exam at the latest. Each case will be reviewed individually. Valid and detailed documentation is a prerequisite for scheduling a makeup exam under such extenuating circumstances. There are no retakes on the exam, even if you were feeling sick during the exam. If you are feeling sick, you need to contact the instructor before the exam and provide a doctor's note.
- To make arrangements for a makeup exam: Contact the STA2023 Course Coordinator by email or in person during office hours (information appears at the top of this syllabus). Makeup exams will cover the same material as the regularly scheduled exam.
- Please Note: Being on vacation is not a valid reason to request an exam makeup.

COURSE ASSESSMENT

Grade Structure		Percent	Grading Scale		
Exam 1		25%	A	4.00	91 to 100%
Exam 2		25%	A-	3.67	89.5 to 90.99%
Exam 3		25%	B+	3.33	85.5 to 89.49%
Labs		12.5%	B	3.00	81 to 85.49%
Quizzes		12.5%	B-	2.67	78.5 to 80.99%
			C+	2.33	75.5 to 78.49%
			C	2.00	68.5 to 75.49%
			D	1.00	60 to 68.49%
			E	0.00	Below 60%

A minimum grade of C is required for general education credit.

COURSE POLICIES

This course complies with all UF academic policies. For information on those policies and for resources for students, please see [Academic Policies & Resources](#).

Privacy Policies: Student records are confidential. Only information designated “UF directory information” may be released without your written consent. UF views each student as the primary contact for all communication. If your parents contact me about your grade, attendance or other information that is not “UF directory information”, I will ask them to contact you.

Privacy in Recorded Live Lectures: Our class sessions will be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. The cameras and microphones are focused on the instructor. Students who participate in class are agreeing to have their voices recorded. Our class sessions will be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. If conducted through Zoom, students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate verbally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Privacy in Zoom Tutoring and Office Hours: The Zoom Tutoring Room is 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 Office Hours for the Course Coordinator and the Lab Coordinator will only admit one student at a time, with any others being placed in a waiting room. This is so students can discuss any personal issues or problems with the instructor during office hours with the guarantee of confidentiality. Neither office hours nor tutoring will be recorded.

Email: Email relating to information about the class should be sent to the STA2023 Course Coordinator or Lab Coordinator (see first section of this syllabus) or to your TA (emails listed on the “Contact Us” website in Canvas). Your message will be answered within two business days, in most cases. Please don’t email all TAs or all instructors using the group email sending option in Canvas. We don’t know who you intended to speak to. Please send email directly to the TA or Lab or course coordinator and address them by name. However, we ask you to please refer to this syllabus and the course pages in Canvas to try to find the answers for yourself. Questions regarding the material covered in class, homework problems, or Lab should be asked in person, in the Tutoring Room, in Lab or in class. Statistical questions often require formulas or pictures, which can make it very hard to communicate by email. Emails should include your full name, UFID number and section number.

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** and

Dropping a class can be found in UF’s Academic Catalog: <https://catalog.ufl.edu/UGRD/academic-regulations/dropping-courses-withdrawals/>

Attendance: Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies. See UF Academic Regulations and Policies for more information regarding the University Attendance Policies. <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

HOW TO GET THE MOST OUT OF THIS COURSE

Time Commitment: Keep up with the class material, either by attending a live class, watching them online, or completing the lecture videos. Set aside time three times a week to work on the course material. Factor in time to complete your quizzes, and don't forget to attend lab each week, on time.

Choice: Remember the class material is available in three different formats: Live lectures, recorded lectures and online lecture videos. Each student should choose the one that works best for them. Everyone is welcome to attend the live lectures, but it may not be possible for you. The lecture videos are all available from the start of the semester. If you know you will be out of town or very busy one week you may want to complete the modules and quizzes ahead of time.

Watching Videos: You should watch the lectures within a day or two of it being posted. Watch the lectures one at a time at regular speed and then do the quiz and also a few suggested homework problems. Each section in the notes is labeled with chapter and section headings. If I ask the audience to work out a problem, this includes those who watch it online as well. Watch the lectures in a low disruption environment. While watching the lecture, you should be focused on the lecture and not messaging friends, checking social media, etc. I have carefully considered what needs to be discussed in class in our limited time frame. Make sure that you are paying attention to all of it. If you find that the online lectures are not working for you, consider going to the live lectures.

Getting Help: You can get **free help from all the TAs in the class in our Tutoring Room** that will be open about 24 hours per week in a mixture of online and in person tutoring hours. No appointments are necessary, and you don't need to go when your TAs are on duty. The Tutoring Room schedule will be posted in Canvas. Information about any other free tutoring services offered by UF will be posted there as well.

Quizzes: If you have questions on the quizzes, you are allowed to ask teaching assistants and the instructor about **submitted** attempts on the quiz only. For example, you can take the quiz one time, submit the quiz for grading. The teaching assistants in the Tutoring Room can help you with the problems with which you had questions. You can then go and try attempt 2 on your own. You are not allowed to complete quizzes in the tutoring room. If you send an email to the instructor about a quiz question, make sure that you take a screen shot of the question and include your full name in the email. Remember that you have several days and several tries for each quiz. Given all these opportunities, all students should do extremely well on the quizzes. Hopefully they will serve the purpose of improving your grade in the class, as well as being an important tool in learning the material for the course.

Labs: Each Lab activity will require students to work in groups. Students are responsible for understanding the material covered in class and the quizzes from the previous modules so they can complete the activity by following the instructions on the worksheet. TAs will be in Lab to facilitate the activity, but students are expected to work independently to explore the statistical concepts, with the help of their group and their notes, according to the principles of active learning. If a question arises, students should turn to other students in their group or table to discuss them. Students must bring a printed lab worksheet to Lab, go to the correct section, be on time, and sign the attendance sheet.

Learn by Doing: You learn Statistics by doing Statistics. In addition to the lectures, quizzes and Labs, there are suggested homework problems and additional tutorials and videos through Access Pearson. You should do as much as you need to understand the material.

OTHER UNIVERSITY SERVICES

Health and Wellness

U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352-392- 1575 to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit <https://shcc.ufl.edu/>

University Police Department: Call 352-392-111 (or 9-1-1 for emergencies) or visit <https://police.ufl.edu/>

UF Health Shands Emergency Room/Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 W Archer Road, Gainesville, FL 32608 or visit <https://ufhealth.org/emergency-room-trauma-center>

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit <https://gatorwell.ufsa.ufl.edu/> or call 352-273-4450.

WEEKLY COURSE SCHEDULE

Live classes are taught Monday, Wednesday and Friday but the lecture videos for all the modules are available in Canvas from the beginning of the semester. Labs and Exams are done in person. Online Module Quizzes are due at 11:59pm EST one business day after the material is covered in class, with the exception of the material covered during drop/add, which are all due after drop/add ends. All Module Quizzes are available from the beginning of the semester so students can work ahead. See Canvas Calendar for exact dates for the current semester and more details.

Note: Lecture notes should be brought to each class and completed during the 50-minute lecture.

Calendar is tentative and subject to change.

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1 (No Lab)	1/12 Module 1: Syllabus and Introduction <i>Quiz due 1/22</i>	1/13	1/14 Module 2: Graphs for Quantitative Data <i>Quiz due 1/22</i>	1/15	1/16 Module 3: Measuring Center and Spread <i>Quiz due 1/22</i>
Week 2 (No Lab)	1/19 MLK Jr. Holiday	1/20	1/21 Module 4: Quartiles and Boxplots <i>Quiz due 1/22</i>	1/22	1/23 Module 5: Intro to Regression <i>Quiz due 1/26</i>
Week 3 (Lab 1)	1/26 Module 6: Regression Example <i>Quiz due 1/27</i>	1/27	1/28 Module 7: Cautions in Regression <i>Quiz due 1/29</i>	1/29	1/30 Module 8: Categorical Data <i>Quiz due 2/2</i>
Week 4 (Lab 2)	2/2 Module 9: Sampling <i>Quiz due 2/3</i>	2/3	2/4 Module 10: Experiments <i>Quiz due 2/5</i>	2/5	2/6 Module 11: Other Considerations <i>Quiz due 2/9</i>
Week 5 (Lab 3)	2/9 Module 12: Basic Probability <i>Quiz due 2/10</i>	2/10	2/11 Module 13: Advanced Probability <i>Quiz due 2/12</i>	2/12	2/13 Module 14: Continuous Probability Distributions <i>Quiz due 2/16</i>

Week 6 (Lab 4)	2/16 Module 15: Discrete Probability Distributions <i>Quiz due 2/17</i>	2/17	2/18 Module 16: More Normal and Binomial Examples <i>Quiz due 2/19</i>	2/19	2/20 Module 17: Sampling Distribution of \hat{p} <i>Quiz due 2/23</i>
Week 7 (Lab 5) Exam Week	2/23 Exam 1 Review	2/24 Exam 1 Tuesday 2/24	2/25 Module 18: Sampling Distribution of \bar{x} <i>Quiz due 2/26</i>	2/26	2/27 Module 19: More Sampling Distribution Problems <i>Quiz due 3/2</i>
Week 8 (Lab 6)	3/2 Module 20: Confidence Intervals for p <i>Quiz due 3/3</i>	3/3	3/4 Module 21: Confidence Intervals for μ <i>Quiz due 3/5</i>	3/5	3/6 Module 22: More on Confidence Intervals <i>Quiz due 3/9</i>
Week 9 (Lab 7)	3/19 Module 23: Sample Size, Small Sample CI for p and Bootstrap <i>Quiz due 3/11</i>	3/11	3/12 Module 24: Basics of Significance Tests <i>Quiz due 3/13</i>	3/13	3/14 Module 25: More about P-values and Significance Tests for Proportions <i>Quiz due 3/23</i>
Week 10 (No Lab)	3/16 Spring Break	3/17 Spring Break	3/18 Spring Break	3/19 Spring Break	3/20 Spring Break
Week 11 (Lab 8)	3/23 Module 26: More Significance Tests for Proportions Examples <i>Quiz due 3/24</i>	3/24	3/25 Exam 2 Review	3/26	3/27 Exam 2 Q&A
Week 12 (No Lab) Exam Week	3/30 Module 27: Significance Tests for Means <i>Quiz due 3/31</i> Exam 2 Monday 3/30	3/31	4/1 Module 28: Relationship between CI and Sig Tests <i>Quiz due 4/2</i>	4/2	4/3 Module 29: Other Considerations about Sig Tests <i>Quiz due 4/6</i>
Week 13 (Lab 9)	4/6 Module 30: Comparing Two Independent Proportions <i>Quiz due 4/7</i>	4/7	4/8 Module 31: Comparing Two Independent Means <i>Quiz due 4/9</i>	4/9	4/10 Module 32: Comparing Two Dependent Means <i>Quiz due 4/13</i>
Week 14 (Lab 10)	4/13 Module 33: McNemar's Test and Permutation Tests <i>Quiz due 4/14</i>	4/14	4/15 Module 34: Review – Part 1 <i>Quiz due 4/16</i>	4/16	4/17 Module 35: Review – Part 2 <i>Quiz due 4/20</i>

Week 15 (No Lab)	4/20 Module 36: Review – Part 3 <i>Quiz due 4/21</i>	4/21	4/22 Exam 3 Review	4/23 Reading Day	4/25 Reading Day
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EXAM 3: Tuesday April 28th 5:30pm – 7:10pm