

STA 2023.0004 · Statistical Methods I · 3 credit hours
Fall 2022 · August 22 – December 11 · MWF 2:30PM – 3:20PM

Instructor: Rong Zhou – TCII 211B

Contact: Webcourses message is preferred for communication (or via email at Rong.Zhou@ucf.edu)

Office hours: Link: <https://ucf.zoom.us/j/97172101868>

Monday, Wednesday: 12:00 pm - 2:15 pm; Tuesday, Thursday: 12:00 pm – 1:15 pm; or by appointment.

This class meets in person in **CB1 O121** on **MWF 2:30PM – 3:20PM**.

Teaching Assistant: Roger Delgado <rdelgado108@Knights.ucf.edu>

Required course materials:

- ALEKS Student Registration Video & Resources for First Day Access:
<https://www.mheducation.com/highered/support/aleks/first-day-of-class/ia-canvas-mhcampus.html>
instructions Physical textbook is not necessary. ALEKS access includes the eText.
- Calculator: basic, scientific, or graphing calculator may be used
- A computer with a webcam or built-in camera and a reliable internet connection.

Prerequisite: MGF 1106 or any other MAC course. It is recommended that you have at least one year of high school algebra. It is necessary to understand the basic properties of our number system (order of operations, exponents, etc.), formula substitutions, solving equations, and how to read word problems.

Course catalog description: First methods course introducing probability and statistical inference, including estimation, hypothesis testing, binomial and normal distributions, sample size.

Course objectives: This is a first statistical methods course that covers descriptive statistics, probability, statistical inference, correlation and regression. Students are expected to learn various topics which are considered a foundation for future courses in statistical methodology. Upon successful completion of the course, students will understand the importance of statistical reasoning in work and in everyday life and, in particular, will be able to do the following tasks: explain key statistical terms, identify types of data and present such data using appropriate tables and charts, summarize, explain, and interpret quantitative data using numerical measures, understand the concept of probability, use rules of probability to solve problems, develop problem solving skills using tree diagram, Venn diagram, cross-table and counting rules, understand the concept of discrete and continuous random variables and their probability distributions, understand and apply binomial and normal distributions to solve probability problems, understand sampling distributions, Central Limit Theorem and its applications to solve probability problems, estimate population means and proportions, interpret results, calculate sample size, conduct tests of hypotheses about mean, median, proportion, interpret results, understand the concept of correlation as a means of quantifying the strength of linear relationship between two quantitative variables and simple linear regression as a means of relating one quantitative variable (y) to another quantitative variable (x), interpret results and estimate mean of y for given values of x.

Academic Activity Assignment: Per financial aid requirements, you must complete an “assignment” on Webcourses by **Friday, August 26, 2022** to confirm your enrollment in the course. Failure to do so may result in a delay in the disbursement of your financial aid. You can access the assignment through the “Assignments” link in Webcourses.

Attendance: Because each class utilizes concepts learned from previous classes, it is extremely important to attend class daily. Excessive absences, tardiness, and early departures suggest a lack of professionalism and commitment and are also related to poor performance in the course. Students who do well in the class tend to take good notes, are organized, study with classmates, work quizzes and homework problems soon after class, and attend every single class. If you must miss class, it is your responsibility to find out what material/announcements you missed and get the notes from a classmate.

Assignment due dates:

Note that all due dates are 11:59pm EST. Google Chrome is the recommended browser. Do not use Safari.

Assignment	Due date	Location	Sections	Graded
Academic Activity*	Friday, August 26	Webcourses	Syllabus	Yes
Chapter 1 Homework*	Monday, August 29	ALEKS	1.1-1.4	Yes
Chapter 1 Quiz /	Monday, August 29	ALEKS	1.1-1.4	Yes
Chapter 2 Homework*	Tuesday, Sept 6	ALEKS	2.1-2.4	Yes
Chapter 3 Homework*	Monday, Sept 12	ALEKS	3.1-3.3	Yes
Chapter 2&3 Quiz /	Monday, Sept 12	ALEKS	2.1-2.4, 3.1-3.3	Yes
Review Quiz for Exam 1*	Monday, Sept 12	ALEKS	1.1-1.4, 2.1-2.4, 3.1-3.3	No
Exam 1 + Extra Credit /	Monday, Sept 12	Webcourses	1.1-1.4, 2.1-2.4, 3.1-3.3	Yes
Section 5.1, 5.4 Homework*	Monday, Sept 19	ALEKS	5.1-5.2	Yes
Section 5.2-5.3 Homework*	Monday, Sept 26	ALEKS	5.3-5.4	Yes
Chapter 5 Quiz /	Monday, Sept 26	ALEKS	5.1-5.4	Yes
Chapter 6 Homework*	Monday, Oct 3	ALEKS	6.1-6.2	Yes
Chapter 6 Quiz /	Monday, Oct 3	ALEKS	6.1-6.2	Yes
Review Quiz for Exam 2*	Monday, Oct 3	ALEKS	5.1-5.4, 6.1-6.2	No
Exam 2 + Extra Credit /	Monday, Oct 3	Webcourses	5.1-5.4, 6.1-6.2	Yes
Section 7.1-7.2 Homework*	Monday, Oct 10	ALEKS	7.1-7.2	Yes
Section 7.1-7.2 Quiz /	Monday, Oct 10	ALEKS	7.1-7.2	Yes
Section 7.3 Homework*	Monday, Oct 17	ALEKS	7.3	Yes
Section 7.4 Homework*	Monday, Oct 24	ALEKS	7.4	Yes
Section 7.3-7.4 Quiz /	Monday, Oct 24	ALEKS	7.3-7.4	Yes
Review Quiz for Exam 3*	Monday, Oct 24	ALEKS	7.1-7.4	No
Exam 3 + Extra Credit /	Monday, Oct 24	ALEKS	7.1-7.4	Yes
Section 8.1-8.2 Homework*	Monday, Oct 31	ALEKS	8.1-8.2	Yes
Section 8.3 Homework*	Monday, Nov 7	ALEKS	8.3	Yes
Chapter 8 Quiz /	Monday, Nov 7	ALEKS	8.1-8.3	Yes
Section 9.1-9.2 Homework*	Monday, Nov 14	ALEKS	9.1-9.2	Yes
Section 9.3-9.4 Homework*	Monday, Nov 21	ALEKS	9.3-9.4	Yes
Chapter 9 Quiz /	Monday, Nov 21	ALEKS	9.1-9.4	Yes
Exam 4 + Extra Credit /	Monday, Nov 21	Webcourses	8.1-8.3, 9.1-9.4	Yes
Chapter 10-11 Homework*	Tuesday, Nov 29	Webcourses	Some Chapters 10&11	Yes
Chapter 10-11 Quiz*	Tuesday, Nov 29	Webcourses	Some Chapters 10&11	Yes
Regression/Correlation Homework*	Saturday, Dec 3	Webcourses	some 4.1-4.3	Yes
Regression/Correlation Quiz*	Saturday, Dec 3	Webcourses	some 4.1-4.3	Yes
Exam 5 + Extra Credit /	Saturday, Dec 3	Webcourses	Chapters 10&11, 4.1-4.3	Yes
Final Exam + Extra Credit /	Wednesday, Dec 6	Webcourses	Cumulative	Optional

* indicates the assignment has unlimited attempts

/ indicates the assignment is limited to one attempt

Grading: Each exam is worth 12% of the final course grade (5 total), homework is worth 20%, and chapter quizzes are worth 20%. The exam extra credit is worth an additional 5% for a maximum possible score of 105%. The final course grade is based as follows:

Percentage	≥ 90	(90-85]	(85-80]	(80-75]	(75-70]	(70-65]	(65-60]	< 60
Grade	A	B+	B	C+	C	D+	D	F

To review interval notation, [click here](#).

Exams:

- Failure to follow any of the exam instructions here or on the exam may result in a 0 score.

- Exams are given on Webcourses. Use Google Chrome for exams. It is your responsibility to verify in advance that you are connected to a reliable internet connection and your computer are functional.
- To prepare for exams, you should thoroughly study the class notes, study your hw/quiz problems, and work the review quiz multiple times. Do not rely on any single source as a study guide. All content covered in notes, hw, and quizzes could be on the exam.
- You have 90 minutes to complete each exam.
- Exams are open notes, open book, open homework/quizzes. Other than these resources, the statistical tables, and a calculator, no other resources may be used. Exams must be worked on your own. You may not give or receive help on exams.
- Although exams are open notes/book/hw/quizzes, I highly recommend that you prepare for the exam as if it was in-class and closed notes/book. With an average of 4.5 minutes per question, you do not have time to search for how to work a problem. You need to be able to read the problem, start working, and answer the problem within about 4.5 minutes. Making a one page reference sheet can be helpful in organizing important information.
- Each exam is worth 12% of your overall grade. No exam grades will be dropped or replaced.
- Exams are 20 questions each and may contain multiple choice, fill in the blank, and other answer styles.
- You will be able to review your exam with the Instructor of the course.
- Makeup exams will be permitted in the following events:
 - Military orders: Students who are deployed active duty military or National Guard personnel and require accommodation should contact their instructor as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.
 - University authorized event (athletics, etc.)
 - Religious observance: A student who desires to observe a religious holy day of his or her religious faith must notify the instructor at the beginning of the term to be excused from classes to observe the religious holy day.
- An optional cumulative final is given at the end of the course. This exam is not required but can be used to replace a student's lowest exam grade. If the grade on the final is lower than the exam grades, no exam grades will be replaced.

ALEKS Homework and Quizzes: Most homework and quizzes are administered through ALEKS. After registering for ALEKS (instructions below), click on the Modules tab in Webcourses to access homework and quizzes.

Registering for ALEKS :

- From our class on Webcourses, on the left column, click on **Course Materials**
- If you are prompted to select a campus, select University of Central Florida
- It is recommended that you **Opt-In** as these materials are required to complete the course.
 - You can choose to Opt-In before the deadline of Sunday, August 28, 2022 at 11:59pm to have access to your course materials at the discounted price of \$74.87. The fee will be billed to your UCF student account.
 - After opting in, click on the **Modules** tab to begin working in ALEKS.
- If you do not Opt-In before Sunday, August 28 or if you do not want the fee billed to your UCF student account, you will have to purchase access at a higher price of \$100.10 from the UCF bookstore (online). To do this, go to <https://ucf.bncollege.com/shop/ucf/page/find-textbooks> and look up this class. If student opt-out the price is \$138.60.
 - It can take 1-2 business days to have ALEKS access restored.

Homework:

- Homework is worth 20% of your overall grade.
- Each homework problem can be attempted an unlimited amount of times until the due date by using the "similar question" button.
- Homework does not have to be completed in one session. You can save the assignment and return to it at any point until the due date. Your grade will update the next time you work on the assignment.

- When you open a homework, the grade automatically starts at 0%. **Grades will be synced after the due date.**
- Homework can be reviewed/practiced after the due date by going to the Modules tab, then ALEKS gradebook, and clicking Review next to the assignment.
- You may receive help on homework questions; however, you must work/submit your own homework.
- Your (1) lowest homework grade will be dropped.
- Late submissions will not be accepted (except in the event of military orders).

Quizzes: Chapter Quizzes and Exam Review Quizzes

- Chapter quizzes are worth 20% of your overall grade.
- Quizzes are not timed but must be completed in one session.
- Chapter 1-8 quizzes can only be attempted once. Chapter 9 and Regression/Correlation quizzes have unlimited attempts.
- Other than the textbook, your notes, and your homework, you may not receive any help on chapter quizzes (giving help on quizzes is also cheating). All chapter quizzes should be worked on your own.
- Exam review quizzes are not graded assignments and can be attempted an unlimited amount of times. You may give/receive help on exam review quizzes.
- Exam review quizzes are a great source of extra practice problems; however, they are not a study guide and should not be treated as such. Each student's exam review quiz is different, and each time you work the quiz it is different. Thus, it is not guaranteed that all content covered on an exam will be covered on any given exam review quiz.
- Quizzes can be reviewed after submitting by going to the ALEKS gradebook and clicking Review next to the assignment.
- Your (1) lowest chapter quiz grade will be dropped.
- Late submissions will not be accepted (except in the event of military orders).

Notes/ Exam content:

- The class notes and exam content may not be shared, sold, uploaded, or distributed in any form. The notes and exams are intellectual property of McGraw Hill and the University of Central Florida. It is both illegal and a violation of UCF's Golden Rule/Academic Integrity Policy to upload/sell/distribute any of the notes or exam content.

Academic Integrity Policy: A student who engages in any form of academic misconduct will receive a grade of 0 on the assignment and may receive an F and/or Z designation for the course. All exams and chapter quizzes are to be exclusively your own work. You may receive help on homework; however, you must work/submit your own homework. Cheating in any form will be reported to the Office of Integrity and Ethical Development for potential university sanctions (suspension, expulsion, etc.).

All students should be familiar with the following definitions and should comply with UCF's rules of conduct <https://goldenrule.sdes.ucf.edu/wp-content/uploads/sites/64/2019/09/2019-2020-Golden-Rule.pdf>

According to Section 1 of UCF-5.008, Academic Misconduct, students are prohibited from engaging in

- Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course related material also constitutes cheating.
- Communication to another through written, visual, electronic, or oral means. The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment or project.
- Commercial Use of Academic Material: Selling of course material to another person, student, and/or uploading course material to a third party vendor without authorization or without the express written permission of the University and the Instructor. Course materials include but not limited to class notes, Instructor's power points, tests, quizzes, labs, instruction sheets, homework, study guides, and handouts.

- d. Falsifying or misrepresenting the student's own academic work.
- e. Plagiarism: Whereby another's work is used or appropriated without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
- f. Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
- g. Any student who knowingly helps another violate academic behavior standards is also in violation of the standards.
- h. Soliciting assistance with academic coursework and/or degree requirements. The solicitation of assistance with an assignment, lab, quiz, test, paper, etc., without authorization of the instructor or record or designee is prohibited. This includes but is not limited to asking for answers to a quiz, trading answers, or offering to pay another to complete an assignment. It is considered Academic Misconduct to solicit assistance with academic coursework and/or degree requirements, even if the solicitation did not yield actual assistance (for example, if there was no response to the solicitation).

Course Accessibility: The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need disability-related access in this course should contact the professor as soon as possible. Students should also connect with Student Accessibility Services (SAS) <http://sas.sdes.ucf.edu/> (Ferrell Commons 185, phone: 407-823-2371). Through Student Accessibility Services, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential access and accommodations that might be reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student.

Campus Safety: Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Students should make a note of the guide's physical location and review the online version at http://emergency.ucf.edu/emergency_guide.html.
- Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, students may need to access a first-aid kit or AED (Automated External Defibrillator). To learn where those are located, see <https://ehs.ucf.edu/automated-external-defibrillator-aed-locations>.
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <https://my.ucf.edu> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.
- To learn about how to manage an active-shooter situation on campus or elsewhere, consider viewing this video (<https://youtu.be/NIKYajEx4pk>).

Deployed Active Duty Military Students: Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.