

Math 10: Elementary Statistics

TERM: Winter 2021

INSTRUCTOR: Matthew Low

EMAIL: lowmatthew@fhda.edu

OFFICE HOURS: [Remote via Zoom \(Links to an external site.\)](#), Fridays 2:00 PM - 4:00 PM by appointment only. Talk to me or message me any time before 2:00 PM on Friday to schedule an appointment.

PREREQUISITES: Intermediate Algebra or a satisfactory score on the math placement exam.

OPTIONAL TEXTBOOK: I will provide most of the course content using lecture notes, homework assignments, solutions, and so forth. Occasionally we may refer to the freely-available textbook [Introductory Statistics \(Links to an external site.\)](#), by Barbara Illowsky. This textbook will be used as a supplemental resource, in case extra reading or practice is needed. However, you are not required to purchase or print this textbook.

EQUIPMENT: Due to the extraordinary circumstances of the pandemic, there are no specific calculator requirements for this class. During class time, I will use the [Desmos Scientific Calculator \(Links to an external site.\)](#) when appropriate. However, I do encourage you to get a dedicated handheld calculator so that you may perform mathematical calculations quickly without using any valuable screen space on your computer. Any scientific calculator will do (must have the LOG and SIN buttons on it). I recommend the TI-30X which you can find at many department stores.

Our class will also use spreadsheets for many statistical calculations. The only supported spreadsheet app is [Google Sheets \(Links to an external site.\)](#). I encourage you to create a Google account (if you don't already have one) and make sure you can run Google Sheets in your web browser. You may use other spreadsheet apps (such as Microsoft Excel or Apple Numbers) but you are responsible for learning how to use them. I cannot officially support spreadsheet apps other than Google Sheets.

PRESENTATION OF MATERIAL: Our class has required virtual meetings. During these meetings we will cover the material you need to know in order to be successful in this class. The instructor will provide lecture notes, homework assignments, and solutions each week, with priority access during our live meetings. Here on Canvas, you will also be able to take the quizzes, the midterm, and also communicate with your instructor and your classmates via discussion boards. The online content can only be accessed through Canvas. SEE THE [MODULES](#) TO KNOW WHAT TOPICS YOU ARE RESPONSIBLE FOR ON A WEEKLY BASIS. Treat the lecture notes as the most important part of the class. If you understand the lecture material and can do the [homework](#) assigned from these online lectures then you should be "good to go". **You are responsible for all of the material from the lectures, homework, and anything discussed in the discussion forums.** Be sure to check the [ANNOUNCEMENTS](#) every time you log in to class.

THE WEEKLY PROCESS: Once you are signed into Canvas, here is what to do each week:

1. Study the [Modules](#) VERY carefully to know what to do and when to do it.

2. Read the [Announcements](#).
3. **Come to class** and be ready to learn and study very carefully. Take notes like you normally would if this were a pre-pandemic on-campus class. If you have a printer, make sure to print the lecture notes ahead of time. You may find the Zoom link for our class in the [Modules](#) area or on the [Home Page](#).
4. Do the [Homework](#) (solutions are supplied) for the sections studied. (Homework is NOT submitted.)
5. Go to the [Weekly Discussion Forum](#) and ASK questions about ANYTHING.
6. Go to the [Weekly Discussion Forum](#) and ANSWER questions that you can.

GRADING POLICY: Your final course grade will be determined by the following:

- Quizzes & Labs: 20%
- Midterm 20%
- Simulated Final Exam: 10%
- Final Exam: 50%

Your grades will be calculated using the following minimum cutoffs for each letter grade:

98%: A+	88%: B+	78%: C+	62%: D
92%: A	82%: B	72%: C	60%: D-
90%: A-	80%: B-	68%: D+	below 60%: F

FORUMS: The FORUMS is an extremely important component of this course; it is the place where we will interact as a class. You can post any pertinent question in the forums ANYTIME you have a question (24 hours a day). When you post a question, everyone in the course can see it and, here's the important part, ANYONE can answer the questions posted. It is important that you do NOT wait for us to answer questions; if you know the answer then help out your fellow students (answering a question will benefit you also anytime you have to break down a question using text only you are forced to really have a command of the subject) and answer away. I will monitor the forums to make sure student answers are correct and to answer questions that are for us directly. The forum is really the only component of the course that will make this seem like a "classroom" setting. Without the forums you would feel quite alone out there trying to study by yourself. It is extremely important that you use the forums to stay connected with the rest of the students in the class. The bottom line: questions are good! Ask, Ask, Ask and... just as important...Answer, Answer, Answer! One more note about the Forums: You are responsible for all [announcements](#) made in the [Announcements](#) area so be sure to check it every time you log in to class. I highly recommend that you **enable notifications** for Canvas. That way you won't miss any relevant postings.

QUIZZES & MIDTERM: There will be one midterm exam and several scheduled quizzes during the quarter. **They will be online and accessible on Canvas in the [Modules](#) area.** On the day of each quiz/exam, click on the appropriate quiz or exam link on the Modules page. Each quiz will be accessible from 3:00am on Friday until 11:00pm on Saturday during the week the quiz/midterm is assigned. You can log in, access the quiz/exam, print it out, log out, work on it at your leisure, then log back in to submit your answers. The only restriction is that you must submit the quiz/exam before the 11pm Saturday deadline.

Any quiz or midterm score that is worse than your final exam score will be replaced by your final exam score.

That means any quiz or midterm not taken within Canvas will not directly affect your course grade -- instead, your final exam will carry more weight toward your overall course grade. If you fail to submit a quiz for any reason (including technical difficulties) then it will simply not count for you – instead, your final exam score will replace that assessment. You do not get to know your quiz score until after the quiz time window closes Saturday night. The key is to use each graded quiz as a learning tool in preparation for future assessments.

COMPUTER LABS: The use of computers to analyze and interpret data is an essential part of learning statistics. We will be learning how computer software packages can be used as a valuable tool to analyze data. Note, the labs are NOT quizzes. That is, you may submit the labs as many times as you wish, and your score will be given to you immediately upon submission.

FINAL EXAM: The college has set our final exam to be on Wednesday, March 24th from 11:30 AM until 1:30 PM. However, because of the pandemic, we will likely have to modify these times in some way. Our class will discuss this when we are closer to finals week.

The final exam in this class is cumulative -- that means it covers everything we cover in the quarter. Your final exam score will replace any score in the class (including quizzes, labs, project and the midterm) that is lower than it. The final exam for this course will be given at the regularly scheduled time during finals week -- **no early or late final exams are allowed**. If you cannot take the final at its scheduled time, do not take this course. Not taking the final results in an F course grade. Using a phone or sharing a calculator during the final exam will result in a grade of F on the exam. You are not allowed to bring in any of your own notes. **Your instructor will supply notes for you during the final exam.**

HOMEWORK: is optional and is not directly part of your course grade. You are responsible for understanding all topics covered in the homework problems. Use the homework as a learning tool in preparation of exams and quizzes. You do NOT submit homework.

IMPORTANT DATES TO KNOW:

- January 16, 2021: Last day to add.
- January 18, 2021: Last day to drop with no record of grade.
- January 29, 2021: Last day to request a P/NP grade.
- February 26, 2021: Last day to drop with a "W" (NO DROPS AFTER THIS DATE. NO EXCEPTIONS)
- March 24, 2021: Final Exam from 11:30am until 1:30pm (tentative times will likely change)

SOURCES OF HELP / Student Success Center: One of the main reasons students have trouble with this course is their reluctance to obtain help when they need it. There are many sources of help for everyone. I am your first source; I am willing to do whatever I can to help you with all aspects of your education, especially this course. Even if you don't have an appointment, **treat my open door**

as your invitation to come in and ask any questions you might have. The [Student Success Center \(Links to an external site.\)](#) are available to all students enrolled at De Anza College and may be your greatest asset as a student enrolled in math courses at De Anza College. Faculty and staff with mathematics backgrounds will help you with your math questions in a supportive environment.

CHANGES: If you miss a class for any reason you will still be accountable for the announcements regarding changes to the syllabus made during that class.

COURSE CONTENT: This course is an introduction to data analysis making use of graphical and numerical techniques to study patterns and departures from patterns. The student studies randomness with an emphasis on understanding variation, collects information in the face of uncertainty, checks distributional assumptions, tests hypotheses, uses probability as a tool for anticipating what the distribution of data may look like under a set of assumptions, and uses appropriate statistical models to draw conclusions from data. The course introduces the student to applications in engineering, business, economics, medicine, education, social sciences, psychology, the sciences, and those pertaining to issues of contemporary interest. The use of technology (computers or graphing calculators) will be required in certain applications. Where appropriate, the contributions to the development of statistics by men and women from diverse cultures will be introduced. This Statistics course is a required lower-division course for students majoring or minoring in many disciplines such as data science, nursing, business, and others.

Student Learning Outcome(s):

*Organize, analyze, and utilize appropriate methods to draw conclusions based on sample data by constructing and/or evaluating tables, graphs, and numerical measures of characteristics of data.

*Identify, evaluate, interpret and describe data distributions through the study of sampling distributions and probability theory.

*Collect data, interpret, compose and defend conjectures, and communicate the results of random data using statistical analyses such as interval and point estimates, hypothesis tests, and regression analysis.