

MATH 10. 01223
Elementary Statistics

"There are no secrets to success. Success is the result of preparation, hard work, and learning from failure."
Colin Powell

On **Monday, Wednesday 1:30 – 3:45 pm**
there will be live sessions which are recorded and posted to canvas.

Instructor: Fatemeh Yarahmadi

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Office Hours: Tuesday and Thursday 4-6 pm, or by appointment

My office hours are times for conversation about the course and your work in it. I am here to answer questions, offer feedback, discuss a course concept, or just listen as you explore a line of reasoning. I can also direct you to resources to help you meet challenges you face outside of class.

Questions outside of office hours? I will respond to your message or email within 24 hours, M-F. If you do not get a response after 24 hours, please resend.

Textbook & Required Materials:

Elementary Statistics: Picturing the World, Betsy Farber and Ron Larson (6th Edition)
(9780321901118)

Inferential Statistics and Probability by Geraghty (online). (The online text is free)

Graphing Calculator: TI-83/TI-83+/TI-84/TI-84+

Computer/smartphone to complete online homework assignments, submit projects on Canvas, and attend required live class meetings.

You should keep a **notebook** where you take notes and work the problems for reference.

Prerequisites:

- MATH 114 or equivalent.
- Not open to students with credit in MATH 10H.
- Advisory: EWRT 211 and READ 211 (or LART 211), or ESL 272 and 273.

Attendance:

Regular attendance and class participation is as vital in an online class as it is in a traditional classroom. You are expected to attend all Zoom meetings. You will be considered present if there is evidence of your participation in required course activities including, but not limited to, submitting an assignment, participating in an online discussion, and working in a group. If you consistently miss Zoom meetings, you may be dropped from the course. However, it is your responsibility to drop yourself if you wish to drop the course.

Course Description:

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.

Instructor Communication:

I am looking forward to working closely with you this term, and you can expect me to play an active role in our course. I will hold live lectures, post announcements every week, check your Google document group work, join you in breakout rooms and class discussions to help you understand course concepts, and provide detailed feedback on assignments within one week of submission. I will also answer questions throughout the term in Piazza and in our weekly discussions. Please let me know when you need help—that's why I'm here!

Canvas:

All class content, assignments and announcements will be on Canvas, which you can access through MyPortal. The course will be divided into weekly modules in Canvas. Weeks will run from Monday to Sunday, and all work for the week (including Discussions and HW) will be due Sunday night at 11:59 pm. The only exception to this is exams which will be timed. Please refer to the calendar.

Reading and Writing:

Statistics is a concept-heavy subject. While we will do some computations and calculations by hand, we will mostly use technology. The essence of statistics lies in framing a problem in statistical language, collecting and processing data, and interpreting the meaning of results in the context of the original problem. This makes it very different from most math classes! You cannot hope to do well in statistics without a clear understanding of statistical concepts. You will need to keep your focus on both concepts and skills. On projects, quizzes and exams, in addition to correct numerical answers, you will also be graded on your explanations. Practice this carefully and deliberately on your homework and group work and ask questions whenever you don't understand something.

Participation in online class:

Because this is an online class, there are no on-campus meetings to attend. However, this does not mean that you will be able to move through the class at your own speed. A major part of the class involves participation, discussing assignments and problems with your classmates.

Thus, everyone needs to be doing the same work at approximately the same time. You are expected to meet all deadlines for homework, quizzes, and discussions. We are learning a lot of different concepts that build on one another and it is very difficult to catch up if you fall behind.

In-Class Group Activity:

There will be required group activities during our live class meetings. Even though the problems will be discussed in group, write up your own solutions independently and upload them on Canvas.

1. Every member of the group will be taking a role.
2. Groupwork are done in Google doc.
3. Your name and your role should be written at the top of the first page.
4. Work must be NEAT and ORGANIZED. Do problems IN ORDER.
5. It is important for you to SHOW YOUR WORK! You are graded on the work you show to get the final answer, not just the final answer. Be sure to show your “scratch work” that goes with the problem.

Discussions and Presentation:

There will be weekly discussion topics posted on Canvas. The deadline for responding to the topic is Sunday 11:59 pm. You may not respond to the discussion once the deadline has passed.

Homework:

Written sets for submission: During the term, I will send out homework sets to be written up and submitted on Canvas. Homework is essential in any math class. You cannot expect to pass the class without putting consistent effort into homework. The deadline for submit the homework is Sunday 11:59 pm.

HW Guidelines:

The process of solving homework problems reflected in step-by-step solutions. The following are some specific criteria:

Guidelines for homework:

1. Your name, class, and section number should be written at the top of the first page.
2. Work must be NEAT and ORGANIZED. Do problems IN ORDER.
3. It is important for you to SHOW YOUR WORK! You are graded on the work you show to get the final answer, not just the final answer. Be sure to show your “scratch work” that goes with the problem. Do your work underneath the assigned problem then circle your final answer.
4. At the end of each homework assignment, write a brief “Chat” paragraph

Group Quizzes:

There are 4 group quizzes will be available on Canvas and each will be worth 25 points. Students are expected to discuss the questions with their groups on Piazza. For more information please check Canvas.

Collaborative Projects:

Two collaborative projects will be assigned throughout the quarter and each will be worth 15 points. A Collaboration project is a project where you work together with your group to discuss (1) selection of a central idea and population of interest, (2) selecting and measuring the variables of interest, (3) sampling from the population, (4) collection of data, (5) data analysis, and (6) writing the results in a understandable form. Project due dates are indicated on the calendar and Canvas.

Exam Reviews:

There will be three exam reviews assigned before each exam worth 10 points each. The purpose of the review is to aid the student in studying for the exams.

Midterm Exams:

There will be three midterm exams. Each exam includes handwritten portion which you will upload to Canvas. Each midterm exam will focus the material covered since the previous exam. More details on exam dates and procedures can be found in Canvas.

Final Exam:

The final exam will be posted on Canvas and will cover all material from throughout the term. You will have two hours to complete the final. More details on the final exam will be available on Canvas.

Grading Policy:

Homework	50 points (6.25 %)
In-Class Group Activities	50 points (6.25 %)
Discussions and Presentations	40 points (5 %)
Group Quizzes	(4 @ 25 pts) 100 points (12.5 %)
Collaborative Projects	(2 @ 15 pts) 30 points (3.75 %)
Midterm Review	(3 @ 10 pts) 30 points (3.75 %)
Midterms	(3 @ 100 pts) 300 points (37.5 %)
Final	200 points (25 %)
Total	800 points

Name:	Range:	
A	100 %	to 94.0%
A-	< 94.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 84.0%
B-	< 84.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 74.0%
C-	< 74.0 %	to 70.0%
D+	< 70.0 %	to 67.0%
D	< 67.0 %	to 64.0%
D-	< 64.0 %	to 61.0%
F	< 61.0 %	to 0.0%

Important Dates and Deadlines: <http://www.deanza.edu/calendar/dates-and-deadlines.html>

De Anza Final exams schedule: <https://www.deanza.edu/calendar/final-exams.html>

For detailed information on Homework, Quizzes, Projects, Discussion please log into your Canvas course page.

Tutoring Services:

The De Anza campus has a free tutorial center for math students where students can get "drop in" help or make appointments with a tutor. Also, there are specific MPS tutors available for free. Check Canvas for links to access these tutors through Zoom meetings. Additionally, I am very glad to help you in office hours. Please use your resources.

Academic Integrity:

All students are expected to exercise high levels of academic integrity throughout the quarter. You are encouraged to work together but you are expected to write up your answers independently. Any instances of cheating or plagiarism will result in disciplinary action, including getting a '0' on the assignment and report to the PSME dean, which may lead to dismissal from the class or the college

Student Honesty Policy:

“Students are expected to exercise academic honesty and integrity. Violations such as cheating and plagiarism will result in disciplinary action which may include recommendation for dismissal.”

Disabled Services:

Students who have been found to be eligible for accommodations by Disability Support Services (DSS), please follow up to ensure that your accommodations have been authorized for the current quarter. If you are not registered with DSS and need accommodations, please go to <http://www.deanza.edu/dss>.

This syllabus is subject to change at the instructor's discretion. Changes will be announced in class and on Canvas.

Recipe for Success:

- If you ever have any questions, Email me! You are welcome to send email to me whenever you need help!
- Visit the Online Tutoring Center.
- Form an online study group.
- Watch all lectures, participate in every discussion, and complete every homework assignment.
- Read the sections to be discussed in class prior to the lecture

Tentative Schedule

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	Sunday
1	5 April Introduction to Statistics	6	7 Descriptive Statistics	8	HW 1 Due
2	12 Descriptive Statistics	13	14 Probability/ Quiz 1	15	HW 2 Due
3	19 Discrete Probability Distributions	20	21 Discrete Probability Distributions/ Quiz 2	22	HW 3 Due
4	26 Normal Probability Distributions	27	28 Exam 1	29	HW 4 Due
5	3 May Normal Probability Distributions	4	5 Confidence Intervals Start Project 1/ Quiz 3	6	HW 5 Due
6	10 Confidence Intervals	11	12 Hypothesis Testing with One Sample	13	HW 6 Due
7	17 Hypothesis Testing with One Sample	18	19 Exam 2	20	HW 7 Due
8	24 Hypothesis Testing with Two Samples	25	26 Hypothesis Testing with Two Samples Start Project 2	27	HW 8 Due Project 1 Due
9	31 -	1 June	2 Correlation and Regression/ Quiz 4	3	HW 9 Due
10	7 Chi-Square Tests and the F - Distribution	8	9 Exam 3	10	HW 10 Due Project 2 Due
11	14 Final Review	15	16 Final Review	17	
12	21 Final from 1:45 PM to 3:45 PM				

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.