Math 10.61 – Elementary Statistics and Probability
Winter 2019
Meets: MW, 6:30 PM to 8:45 PM
Room: E36

Instructor: Lilit Mazmanyan	**Office:** On-line (email/Canvas/WebAssign)
Contact: mazmanyanlilit@fhda.edu	**Office hours:** Tuesday and Thursday 6:30 PM to 7:00 PM

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.

Prerequisites
- MATH 114 or equivalent with a grade of C or better; or a qualifying score on the Intermediate Algebra Placement Test within the past calendar year.
- Not open to students with credit in MATH 10H.
- Advisory: EWRT 211 and READ 211 (or LART 211), or ESL 272 and 273.

Textbook
Barbara Illowsky and Susan Dean, *Introductory Statistics*, OpenStax College, 2013, ISBN: 978-1938168208
- This is an open source textbook which is available for free online: http://openstaxcollege.org/textbooks/introductory-statistics/get
- Printed edition can be purchased or rented at the DeAnza College bookstore.

Supporting Textbook
Maurice A. Geraghty, *Inferential Statistics and Probability-A Holistic Approach*, De Anza College, 2018.
http://nebula2.deanza.edu/~mo/holistic/HolisticStatisticsRev180817.pdf

Calculators and Computer Software
- A TI-83 PLUS, TI-84 or TI-84 PLUS graphing calculator is REQUIRED in class every day.
- It is the student's responsibility to obtain a calculator to use if his/her calculator is lost or broken. Library Reserve has calculators for limited loans. The instructor can NOT lend her calculator.
- Cell phones or other devices CANNOT be used in place of a permitted calculator on any quiz or examination.
- Graphing calculator and computer software Minitab are REQUIRED to complete the Laboratory assignments.

Homework (HW)	• Homework is done online using WebAssign • Students need to self-register at http://www.webassign.net to use WebAssign software • **CLASS KEY** to register on WebAssign **WILL BE SENT TO STUDENTS BY EMAIL** • Cost to access WebAssign is about $35 for the quarter

	• Pay for WebAssign online with debit or credit card • WebAssign is FREE for 2 weeks of the quarter only • After the due date/time, HW cannot be submitted for credit • After the due date/time, the answer key is available online • There are 13 chapter homework assignments which are distributed between 10 homework due dates • Only 10 best chapter homework grades are counted
Labs (L)	• Laboratory assignments will be described in class • May be used graphing calculator or may be used statistical software Minitab in a computer lab during the class's regular meeting time • Must be done in groups of at least two and no more than four • Individual work will be penalized by 40% of the grade • LATE Laboratory work will be penalized by 40% of the grade • No laboratory grade can be dropped
Quizzes (Q)	• Quiz is closed book • Based on classwork and homework • One sheet of notes, HANDWRITTEN, double-sided 8.5 x 11-inch, is allowed • NO MAKE-UP QUIZZES are given • Missed quiz is graded as a zero (0) • The lowest quiz score will be dropped
Exams & Final Exam (EX,FE)	There will be four (4) examinations • EX 1,2&3 are one hour each and Final exam is two hours • EX 1,2&3 and the FE dates are on the course schedule • Exams are closed book • Bring graphing calculator, spare batteries, pencils, ruler, sharpener, and eraser • You need scantron and #2 pencil for the Final Exam; Scantron (Green), Form #882-E • If English is the student's second language, a paper English translation dictionary is permitted • Electronic English translation dictionaries are NOT permitted • No cellphones or other technologies are allowed during the Exams except graphing calculator • One sheet of notes (double-sided 8.5 x 11-inch), HANDWRITTEN, is allowed for the Exams 1,2&3 • Two sheets of notes (double-sided 8.5 x 11-inch), HANDWRITTEN, are allowed for the Final Exam • There are NO MAKE-UP examinations • An absence from any examination earns a grade of zero (0) • You MUST take the final exam to pass the course

Grading

Students will be graded on homework (HW), laboratory work (LW), quizzes (Q), and exams (EX1,2&3, FE).

Grading depends on the clarity of work, interpretations, accuracy and completeness of graphs, and explanations as well as numerical answers.

Distribution of weights for each category

Category	% Weight on Final Grade
Homework	10 %
Quizzes	10 %
Labs	15 %
Exam 1	15 %
Exam 2	15 %
Exam 3	15 %
Final Exam	20 %

Grading Scale

A+	≥99		A	94-98		A-	90-93
B+	86-89		B	82-85		B-	78-81
C+	74-77		C	70-73			
D+	64-69		D	58-63		D-	50-57
						F	<50

Extra Credit

During the course you will have opportunities for extra credits. There will be extra problems included in the coursework and on exams, or short presentation on *Application of Statistics in Real Life*.

Important Dates and Deadlines

https://www.deanza.edu/calendar/

Monday	**January 7**	First day of Winter Quarter 2019**.**
Saturday	**January 19**	Last day to add classes.
Sunday	**January 20**	Last day to drop classes with no record of "W"
Monday	**January 21**	Martin Luther King Jr. Holiday - Campus Closed
Monday	**February 18**	President's Holiday - Campus Closed
Friday	**March 1**	Last day to drop classes with a "W"
Wednesday	**March 27**	Final examination https://www.deanza.edu/calendar/finalexams.html

Attendance, Drops or Withdrawals

- Regular attendance is essential for success in the course.
- You must not miss a class in the first week of the quarter or you will be dropped.
- A student who discontinues coming to class and does not drop the course will automatically receive an ‘F’ grade for the course.
- It is the student's responsibility to drop or withdraw from this course by the college deadlines.

Academic Honesty and Discipline Policy:
Students are expected to abide by the DeAnza College Code of Conduct and not participate in academic dishonesty.

Academic dishonesty includes:
- Copying from other students (plagiarism)
- Using notes during a quiz or examination that do not meet permitted specifications
- Continuing to write or erase on a quiz or examination after the permitted time has ended
- Using any electronic device other than the approved TI calculator on a quiz or examination
- Sharing a calculator with another student for a quiz or examination

You can find more information on academic integrity at https://www.deanza.edu/policies/academic_integrity.html

Disruptive Behavior:
The use of cell phones and other noise emitting devices is disruptive. Students must keep their cell phones and other noise making devices in the off-mode, and keep them off the desk and out-of-sight.

Disruptive behavior includes:
- Engaging in an activity not related to the classroom activity
- Eating or drinking during class
- Monopolizing discussion time
- Late arrivals or early departure

Tutoring
The Math, Science and Technology Resource Center (MSTRC) is located in S43 on the De Anza Campus, (408) 864-5422. Hours of operation: Monday - Thursday 9:00 am - 5:30 pm, Friday 9:00 am - 12:00 pm. The MSTRC provides free tutoring services such as drop-in tutoring, weekly individual tutoring, and group tutoring.
Student Success Center: http://deanza.edu/studentsuccess/mstrc/

Students with Disabilities
Students with disabilities who qualify for academic accommodations must provide a notification from the Disability Support Services (DSS) and discuss their specific needs with the instructor at the beginning of the quarter.
For information or questions about eligibility, support services or accommodations to disability (physical or learning disability) please contact Disability Support Services (DSS). DSS is located in Registration and Student Services Building, RSS Room 141. Phone number is (408) 864-8753; TTY (408) 864-8753. Email is dss@fhda.edu.
Disability Support Services: https://www.deanza.edu/dss/

Tentative Schedule

	Monday	Wednesday
Week 1	January 7 **Syllabus/Chapter 1** Sampling and Data	January 9 **Chapter 1,2** Sampling and Data; Descriptive Statistics **HW 1 due**
Week 2	January 14 **Chapter 2** Descriptive Statistics **Quiz 1**	January 16 **Chapter 2,3** Descriptive Statistics; Probability Topics **Lab 1 due; HW 2 due**
Week 3	January 21 Martin Luther King Jr. Holiday **No class**	January 23 **Chapter 3,4** Probability Topics; Discrete Random Variables **Quiz 2**
Week 4	January 28 **Chapter 4** Discrete Random Variables; Review Problems **HW 3 due**	January 30 **Chapter 5** Continuous Random Variables **Exam 1 (one hour): Chapters 1-4**
Week 5	February 4 **Chapter 5,6** Continuous Random Variables; Normal Distribution **Quiz 3**	February 6 **Chapter 6,7** Normal Distribution; Central Limit Theorem **Lab 2 due; HW 4 due**
Week 6	February 11 **Chapter 7,8** Central Limit Theorem; Confidence Interval	February 13 **Chapter 8** Confidence Interval; Review Problems **Quiz 4; HW 5 due**
Week 7	February 18 President's Holiday **No class**	February 20 **Chapter 9** Hypothesis Testing with One Sample; **HW 6 due** **Exam 2 (one hour): Chapters 5-8**
Week 8	February 25 **Chapter 9** Hypothesis Testing with One Sample	February 27 **Chapter 10** Hypothesis Testing with Two Samples **Lab 3 due; HW 7 due**
Week 9	March 4 **Chapter 10** Hypothesis Testing with Two Samples **Quiz 5**	March 6 **Chapter 10, 11** Hypothesis Testing with Two Samples; Chi-Square Distribution; **HW 8 due**
Week 10	March 11 **Chapter 11,12** Chi-Square Distribution; Linear Regression and Correlation **Quiz 6**	March 13 **Chapter 12** Linear Regression and Correlation; Review Problems **Lab 4 due; HW 9 due**
Week 11	March 18 **Chapter 13** F-Distribution and One-Way ANOVA **Exam 3 (one hour): Chapters 9-12**	March 20 **Chapter 13** F-Distribution and One-Way ANOVA; Review Problems **Quiz 7; HW 10 due**
Week 12		**March 27** **Final Exam (two hours): Chapters 1-13** **6:15-8:15 PM**

- Any change in schedule is announced during class. Students are responsible for keeping track of schedule changes.
- Final Exam date/time is the college mandated official final exam date/time.

Course materials (syllabus, lecture presentations, quiz/exam answer keys and additional resources) are uploaded onto *Canvas*. It is accessible to you via MyPortal as you are enrolled in the course. You

can also access into Canvas using direct link (https://deanza.instructure.com) with your MyPortal login credentials.

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.