



Mathematics 10.67 – Elementary Statistics and Probability
Winter 2017
Meets: TR, 6:30 PM to 8:45 PM
Room: E-32

Instructor: Lilit Mazmanyanyan	Office: E37
Contact: mazmanyanyanlilit@fhda.edu	Office hours: Tuesday and Thursday 3:00 PM to 3:30 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 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.

Student Learning Outcomes

- Organize, analyze, and utilize appropriate methods to draw conclusions based on sample data by constructing and/or evaluating tables, graphs and numerical measures of data characteristics
- Identify, evaluate, interpret and describe data distributions through the study of sampling distribution 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

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

Recommended References

- Navidi, W. and Monk, B., *Elementary Statistics*, McGraw-Hill Education, 2015.
- Larson, R. and B. Farber. *Elementary Statistics: Picturing the World*, 6th Edition, Pearson 2015.
- Brase, C.H. and Brase, C.P., *Understandable Statistics: Concepts and Methods*, Cengage Learning, 10th Edition, 2011.

Calculators and Computer Software

- A TI-83 PLUS, TI-84 or TI-84 PLUS graphing calculator is **REQUIRED** in class every day
- Cell phones or other devices **CANNOT** be used in place of a permitted calculator on any quiz or examination
- Statistical analysis using technology such as EXCEL, SPSS, Minitab, OR graphing calculators are **REQUIRED** to complete the Laboratory assignments.

<p>Homework (HW)</p>	<ul style="list-style-type: none"> • 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 • The lowest homework score will be dropped
<p>Labs (L)</p>	<ul style="list-style-type: none"> • Laboratory assignments must be done in groups of at least two • MUST be used any statistical analysis using technology Excel, SPSS, Minitab, OR graphing calculators • NO MAKE UP OR LATE LABORATORY work is accepted • No laboratory grade can be dropped
<p>Quizzes (Q)</p>	<ul style="list-style-type: none"> • Closed book • Based on classwork and homework • One page 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
<p>Exams & Final Exam (EX,FE)</p>	<p>There will be three (3) examinations</p> <ul style="list-style-type: none"> • EX 1 & EX 2 are one hour each and Final exam is two hours • EX 1 & EX 2 and the FE dates are on the course schedule • Closed book • Bring calculator, spare batteries, pencils, sharpener, and eraser • If English is the student’s second language, a paper English translation dictionary is permitted • Electronic English translation dictionaries are NOT permitted. • One page of notes, HANDWRITTEN, double-sided 8.5 x 11-inch, is allowed for the EX 1&2. • Two pages of notes, HANDWRITTEN, double-sided 8.5 x 11-inch, are allowed for the Final Exam. • There are NO MAKE-UP examinations • An absence from any examination earns a grade of zero (0)

Grading	<p>Students will be graded on homework (HW), laboratory work (LW), quizzes (Q), and exams (EX1, EX2, FE).</p> <p>Grading depends on the clarity of work, interpretations, accuracy and completeness of graphs, and explanations as well as numerical answers.</p> <p>Distribution of weights for each category</p> <table border="1"> <thead> <tr> <th>Category</th> <th>% Weight on Final Grade</th> </tr> </thead> <tbody> <tr> <td>Homework</td> <td>10 %</td> </tr> <tr> <td>Quizzes</td> <td>10 %</td> </tr> <tr> <td>Labs</td> <td>15 %</td> </tr> <tr> <td>Exam 1</td> <td>20 %</td> </tr> <tr> <td>Exam 2</td> <td>20 %</td> </tr> <tr> <td>Final Exam</td> <td>25 %</td> </tr> </tbody> </table> <p>Grading Scale</p> <table border="1"> <tbody> <tr> <td>A+</td> <td>≥98</td> <td>A</td> <td>94-97</td> <td>A-</td> <td>90-93</td> </tr> <tr> <td>B+</td> <td>86-89</td> <td>B</td> <td>82-85</td> <td>B-</td> <td>78-81</td> </tr> <tr> <td>C+</td> <td>74-77</td> <td>C</td> <td>70-73</td> <td></td> <td></td> </tr> <tr> <td>D+</td> <td>64-69</td> <td>D</td> <td>58-63</td> <td>D-</td> <td>50-57</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>F</td> <td><50</td> </tr> </tbody> </table> <p>Extra Credit</p> <p>During the course you will get extra credit problems. They will be included in coursework, homework, and on exams.</p>	Category	% Weight on Final Grade	Homework	10 %	Quizzes	10 %	Labs	15 %	Exam 1	20 %	Exam 2	20 %	Final Exam	25 %	A+	≥98	A	94-97	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
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Important Dates and Deadlines

Monday	January 9	First day of Winter Quarter 2017.
Saturday	January 21	Last day to add quarter-length classes. Add date is enforced.
Sunday	January 22	Last day to drop for a full refund or credit. Last day to drop for a class with no record of grade. Drop date is enforced.
Friday	February 3	Last day to request pass/no pass grade. Request date is enforced.
Friday	March 3	Last day to drop with a "W." Withdraw date is enforced.
Monday	January 16	Holiday: Observance of Martin Luther King's Birthday.
Friday-Monday	February 17-20	Holiday: Presidents' Day Weekend (no classes).
Saturday-Friday	March 25-31	Final examination
Friday	March 31	Last day to file for a winter degree or certificate. Last day of Winter 2017 Quarter.

Attendance, Drops or Withdrawals

- Regular attendance is essential for success in the course
- 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

Academic dishonesty can result in a grade of 'F' for that quiz or examination or assignment, or a grade of 'F' for the course and referral to the Dean for academic discipline.

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 is located in S43 on the De Anza Campus, (408) 864-8683. Hours of operation: Mon - Thurs 8:30 am - 6:30 pm, Fri 8:30 am - 12:30 pm.

Student Success Center: <http://deanza.edu/studentuccess/mstrc/>

Students with Disabilities

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 Student Community Services Building, Room 141. Phone number is (408) 864-8753; TTY (408) 864-8753.

Disability Support Services: <https://www.deanza.edu/dss/>

Tentative Schedule*

	Tuesday	Thursday
Week 1	January 10 Syllabus/Chapter 1 Sampling and Data	January 12 Chapter 1,2 Sampling and Data; Descriptive Statistics
Week 2	January 17 Chapter 2 Descriptive Statistics Quiz 1; HW 1 due	January 19 Chapter 2,3 Descriptive Statistics; Probability Topics Lab 1 due
Week 3	January 24 Chapter 3 Probability Topics Quiz 2; HW 2 due	January 26 Chapter 3,4 Probability Topics; Discrete Random Variables
Week 4	January 31 Chapter 4 Discrete Random Variables HW 3 due	February 2 Chapter 4,5 Discrete Random Variables; Continuous Random Variables Exam 1 (one hour): Chapters 1-4
Week 5	February 7 Chapter 5,6 Continuous Random Variables; Normal Distribution HW 4 due	February 9 Chapter 6,7 Normal Distribution; Central Limit Theorem Quiz 3; Lab 2 due
Week 6	February 14 Chapter 7,8 Central Limit Theorem; Confidence Interval HW 5 due	February 16 Chapter 8 Confidence Interval Quiz 4
Week 7	February 21 Chapter 8,9 Confidence Interval; Hypothesis Testing with One Sample HW 6 due	February 23 Chapter 9 Hypothesis Testing with One Sample Quiz 5; Lab 3 due
Week 8	February 28 Chapter 9,10 Hypothesis Testing with One Sample; Hypothesis Testing with Two Samples HW 7 due	March 2 Chapter 10 Hypothesis Testing with Two Samples Exam 2 (one hour): Chapters 5-9
Week 9	March 7 Chapter 10,11 Hypothesis Testing with Two Samples; Chi-Square Distribution HW 8 due	March 9 Chapter 11 Chi-Square Distribution Quiz 6; Lab 4 due
Week 10	March 14 Chapter 12 Linear Regression and Correlation HW 9 due	March 16 Chapter 12 Linear Regression and Correlation Quiz 7
Week 11	March 21 Chapter 13 F-Distribution and One-Way ANOVA HW 10 due	March 23 Review Problems Quiz 8; Lab 5 due
Week 12	March 28 No class	March 30 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
- Course materials (syllabus, lecture presentations and answer keys) are uploaded on “My Courses/Course Studio.” It is accessible to you via MyPortal as you are enrolled in the course.