Mathematics 10.15 – Elementary Statistics and Probability
Fall 2016
Meets: MTWThF, 12:30 PM to 1:20 PM
Room: MCC-12

Instructor: Lilit Mazmanyan	**Office:** E3
Contact: mazmanyanlilit@fhda.edu	**Office hours:** Tuesday and Thursday 11:30 AM to 12:00 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 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 for Project completion.

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 • The lowest homework score will be dropped
Laboratory Work (LW)	• Laboratory assignments can be done individually or in groups • 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
Quizzes (Q)	• 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
Exams & Final Exam (EX, FE)	There will be three (3) examinations • EX 1 & EX 2 are 50 minutes each and Final exam is 2 hours • EX 1 & EX 2 and the FE dates are on the course schedule • Closed book • Bring a Scantron (#2052), calculator, spare batteries, #2 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 exam • There are NO MAKE-UP examinations • An absence from any examination earns a grade of zero (0)
Project (P)	The project is conducted in teams of 4 or 5. Choose your own teams. The instructor may assign any class member to any team. Project topics and details will be discussed in the class. In week 5 submit the project proposal and the names of the Team members. The proposal includes a description of the problem, a set of objectives, and the steps to be

followed. Statistical technology such as SPSS, EXCEL, Minitab, or graphing calculator MUST be used.

The project culminates in a written report.

Grading

Students will be graded on homework (HW), laboratory work (LW), quizzes (Q), exams (EX1, EX2, FE), and Project (P).

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 %
Laboratory work	10 %
Quiz	10 %
Exam 1	15 %
Exam 2	15 %
Final Exam	20 %
Project	20 %

Grading Scale

A+	≥98		A	94-97		A-	90-93
B+	86-89		B	82-85		B-	78-81
C+	74-77		C	70-73		C-	66-69
D+	62-65		D	58-61		D-	50-57
						F	<50

Extra Credit

Extra credit problems are in some homework and lab works and on the final FE.

Important Dates and Deadlines

Monday	**September 26**	First day of Fall Quarter 2016
Sunday	**October 9**	Last day to drop for a full refund or credit**. Drop date is strictly enforced.**
Friday	**October 14**	Last day to request pass/no pass grade. **Request date is enforced.**
Friday	**November 11**	Veterans Day NO CLASS
Friday	**November 18**	Last day to drop with a "W." **Withdraw date is strictly enforced.**
Thursday - Sunday	**November 24 - 27**	Thanksgiving Holiday Recess (College is closed)
Saturday - Friday	**December 10 - 16**	Final examination
Friday	**December 16**	Last day to file for a fall degree or certificate**.**
Friday	**December 16**	Last day of Fall 2016 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 and 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/studentsuccess/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*

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Sept 26 **Syllabus/Chap 1** Sampling and Data	Sept. 27 **Chapter 1**	Sept 28 **Chapter 1**	Sept 29 **Chapter 1**	Sept 30 **Chapter 2** Descriptive Statistics
Week 2	Oct 3 **Chapter 2** **Quiz 1**	Oct 4 **Chapter 2** **HW 1 due**	Oct 5 **Chapter 2**	Oct 6 **Chapter 2** **Lab 1 due**	Oct 7 **Chapter 3** Probability Topics
Week 3	Oct 10 **Chapter 3** **Quiz 2**	Oct 11 **Chapter 3** **HW 2 due**	Oct 12 **Chapter 3**	Oct 13 **Chapter 4** Discrete Random Variables	Oct 14 **Chapter 4**
Week 4	Oct 17 **Chapter 4** **Quiz 3**	Oct 18 **Chapter 4** **HW 3 due**	Oct 19 **Chapter 5** Continuous Random Variables	Oct 20 **Chapter 5**	Oct 21 **Exam 1** **Chapters 1-4**
Week 5	Oct 24 **Chapter 5**	Oct 25 **Chapter 6** Normal Distribution **HW 4 due**	Oct 26 **Chapter 6** **Project Proposal due**	Oct 27 **Chapter 6** **Lab 2 due**	Oct 28 **Chapter 7** Central Limit Theorem
Week 6	Oct 31 **Chapter 7** **Quiz 4**	Nov 1 **Chapter 7** **HW 5 due**	Nov 2 **Chapter 8** Confidence Interval	Nov 3 **Chapter 8**	Nov 4 **Chapter 8**
Week 7	Nov 7 **Chapter 8** **Quiz 5**	Nov 8 **Chapter 9** Hypothesis Testing with One Sample **HW 6 due**	Nov 9 **Chapter 9**	Nov 10 **Chapter 9** **Lab 3 due**	Nov 11 Veterans Day **No class**
Week 8	Nov 14 **Chapter 9** **Quiz 6**	Nov 15 **Chapter 10** Hypothesis Testing with Two Samples **HW 7 due**	Nov 16 **Chapter 10**	Nov 17 **Chapter 10**	Nov 18 **Exam 2** **Chapters 5-9**
Week 9	Nov 21 **Chapter 11** Chi-Square Distribution	Nov 22 **Chapter 11** **HW 8 due**	Nov 23 **Chapter 11** **Lab 4 due**	Nov 24 Thanksgiving **No class**	Nov 25 Thanksgiving **No class**
Week 10	Nov 28 **Chapter 11** **Quiz 7**	Nov 29 **Chapter 11** **HW 9 due**	Nov 30 **Chapter 12** Linear Regression and Correlation	Dec 1 **Chapter 12**	Dec 2 **Chapter 12**
Week 11	Dec. 5 **Chapter 12** **Quiz 8**	Dec. 6 **Chapter 12** **HW 10 due**	Dec. 7 **Chapter 13** F-Distribution and One-Way ANOVA	Dec. 8 **Chapter 13** **Lab 5 due**	Dec. 9 **Chapter 13** **Final Project due**
Week 12	Dec12 No class	Dec 13 No class	Dec. 14 **Final Exam** **11:30-1:30 PM**	Dec. 15	Dec.16

- Any change in schedule is announced during class
- STUDENTS ARE RESPONSIBLE FOR KEEPING TRACK OF SCHEDULE CHANGES