

## De Anza College

# Math 10: Elementary Statistics and Probability Spring 2017, Section 28, CRN 40979

### Course and Contact Information

<b>Instructor:</b>	Andrew Jianyu YU
<b>Office Location:</b>	E Squad, Room E37
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<b>Office Hours:</b>	Tuesday: 12:30PM to 1:30PM Thursday: 12:30PM to 1:30PM
<b>Class Days/Time:</b>	Tuesday & Thursday 4:00PM to 6:15PM
<b>Classroom:</b>	Squad G, Room 7
<b>Prerequisites:</b> <b>Advisory:</b>	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. Advisory: EWRT 211 and READ 211 (or LART 211), or ESL 272 and 273.

### Required Materials:

(#1) Introductory Statistics, Open Stax College. Use the following link to find the textbook:

[http://accounts.smccd.edu/moss/math\\_200online/Introductory%20Statistics.pdf](http://accounts.smccd.edu/moss/math_200online/Introductory%20Statistics.pdf)

You can purchase a hard copy of the text at Lulu for \$12.19. Here is the link.

<https://www.lulu.com/shop/view-cart.ep>

(#2) Texas Instrument TI-84 Plus (or 83 Plus). You need that for homework and exam. Note that I have a TI-84 Plus and I will demonstrate how to use TI-84 Plus only in class. If you use another calculator model, you are responsible for figuring out how to perform the same computation on your own calculator.

**Technical Requirement:**

(#1) Your email account: please check your email regularly. It is recommended to connect your email with your smart phone. I will try to email the plan for the upcoming week during weekend. You are encouraged to ask me any homework questions through email.

**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.

**Student Learning Outcome Statements (SLO)**

- 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 analysis such as interval and point estimates, hypothesis tests, and regression analysis.

**Attendance:**

Attendance to all class sessions is required. After 2 days of absences your grade may be lowered or you may be dropped from the class; however, it is your responsibility to officially drop the course should you decide to do so. You need to sign your name on a sign-in sheet during every class. Please understand that you must attend every class to avoid falling behind. If you did not attend a class meeting, then you are responsible for learning all the materials being covered in class by yourself. Most importantly, if you get caught for signing the attendance sheet for your classmates, then you and your classmates will be marked as absent on that day.

**Office Hours**

Think of the office hours as free tutoring for homework problems and to catch up with class material. It is also an excellent opportunity to get to know your fellow classmates and your instructor. If you come to the office hours to ask questions on the homework problems, please come prepared. I expect that you have thoroughly read the problem and at least attempted to solve it yourself. Please feel free to ask questions any time before or after class, as they may be of interest to other students.

**Homework: 50 points each, 20% of your semester grade.**

The weekly homework assignment is due every Thursday. **Please submit your homework in the beginning of class. Your lowest homework score will be dropped. Please circle your final answers. Late homework is not accepted. The score of late homework is zero.** Only the selected problems will be graded. Please show all of your work; otherwise your homework will not be graded. You are encouraged to discuss homework assignments with other students, but you must write up your solutions independently. Copying answers to homework problems from other people or other sources (including the internet) is not acceptable. You are expected to turn in completed solutions - show your work on all steps. Ask questions in class and during the office hours. Do not wait until the day before an assignment is due to start working on it. **PLEASE STAPLE ALL SHEETS TOGETHER. If you write your homework in your notebook, please remove the left margin before you submit your homework. Points will be deducted if your homework does not satisfy two conditions mentioned above.**

**Quizzes: 30% of your semester grade.**

A weekly quiz will be given at the due date of the weekly homework. I will give the quiz during the last 10 minutes of class. Quiz problems are very similar to homework problems. All the quizzes are closed book and closed notes. You are allowed to use a calculator on the quiz. Please circle your final answers. **No make-ups quizzes will be given. Your lowest quiz score will be dropped.**

**Midterm: 30% of your semester grade. (There are 2 midterms in this semester)**

All exams are closed book and closed notes. You are not allowed to use any electronic devices except for a non-graphing calculator. If necessary, a formula sheet will be provided. Midterm date will be announced at least one week in advance. Practice midterm will be given. There will be no make-ups for missed exams after the exam has been given. However, prior to an exam, rescheduling arrangements may be considered for illness and other special circumstances. **You are not allowed to share calculators during midterm.**

**Final Exam: 20% of your semester grade.**

Final exam is cumulative. It covers all the materials being covered in this semester. This is a closed book and closed notes exam. You are not allowed to use any electronic devices except for a calculator. If necessary, a formula sheet will be provided. There will be no make-ups for missed exams after the exam has been given. However, prior to an exam, rescheduling arrangements may be considered for illness and other special circumstances.

**You are not allowed to share calculators during final.**

We will cover the following topics in orders.

**CHAPTER 1: SAMPLING AND DATA**

- Population, Parameter
- Sample, Statistics
- Qualitative Variable, Quantitative Variable

**CHAPTER 2: DESCRIPTIVE STATISTICS**

- Mean, Variance, Standard Deviation, Median, Range, Mode
- Boxplot, Histogram

### **CHAPTER 3: PROBABILITY TOPICS**

- Events, Mutually Exclusive Events
- Addition Rule, Multiplication Rule
- Venn Diagram, Independence

### **CHAPTER 4: Discrete Random Variable**

- Binomial Distribution
- Expectation, Variance, Standard Deviation

### **CHAPTER 12: LINEAR REGRESSION AND CORRELATION**

- Scatterplot, Association, Correlation
- Linear Model  $y = a + bx$
- Coefficient of Determination

### **CHAPTER 5: CONTINUOUS RANDOM VARIABLE**

- Uniform Distribution

### **CHAPTER 6: THE NORMAL DISTRIBUTION**

- 68-95-99.7 Rule
- Standard Normal Distribution, Z-Table

### **CHAPTER 7: CENTRAL LIMIT THEOREM**

- Central Limit Theorem for Sample Mean
- Using the Central Limit Theorem

### **CHAPTER 8: CONFIDENCE INTERVAL**

- One Sample Z-Interval, when the sample standard deviation is known
- One Sample T-Interval, when the sample standard deviation is unknown
- One Proportion Z-Interval

### **CHAPTER 9: HYPOTHESIS TESTING WITH ONE SAMPLE**

- Null Hypothesis and Alternative Hypothesis
- One Sample Z-Test, when the sample standard deviation is known
- One Sample T-Test, when the sample standard deviation is unknown
- One Proportion Z-Test

**CHAPTER 10: HYPOTHESIS TESTING WITH TWO SAMPLES**

- Two Samples Z-Test, when the sample standard deviation is known
- Two Samples T-Test, when the sample standard deviation is unknown
- Two Proportions Z-Test

**CHAPTER 11: THE CHI-SQUARE DISTRIBUTION**

- Goodness of Fit Test
- Test of Homogeneity
- Test of Independence

**Grading Rubrics:**

Your semester grade will be assigned in the following standard:

A: 100% to 92%	A-: 91% to 90%	
B+: 89% to 86%	B: 85% to 82%	B-: 81% to 80%
C+: 79% to 74%	C: 73% to 70%	
D: 69% to 60%	F: below 60%	

**Academic Integrity**

- Please be honest. DO NOT copy other people's work.
- If you cheated and get caught during the quiz and exam, I will give you a zero on that assignment. Here are examples of cheating.
- Looking or copying other classmates' answers during the test.
- Passing a slip of paper to your classmate.
- Using your cellphones to browse on Internet or reading the pictures of your notes, homework, or any other resources.
- Please leave your cellphone on my table if you want to go to the restroom.

**Classroom Discipline:**

- Please be on time.
- If you plan to leave early, please sit close to the door.
- Do not use your cellphone during class.
- Do not use your computer during class unless you are being asked to do computations in your computer.
- Please respect your classmates at all times.
- No talking except to ask questions of the instructor or answer questions posed by the instructor. Even one side conversation can carry throughout the room and distract other students. Students who are disruptive will be removed from the course.

**Available Support Services:**

There are two tutorial centers on the De Anza campus. S-43 provides tutoring for Math and Science, else. Drop-in tutoring is always available. Individual tutoring is also available.

**Academic Adjustments for Students with Disabilities:**

In coordination with the Disability Support Services, reasonable accommodation will be provided for eligible students with disabilities. For more assistance, please contact the DSS Student Community Services Building, Room 141 or call 408-864-8753.

**Class Conduct Policy:**

Students are responsible for adhering to the Code of Student Conduct outlined in the De Anza College Catalog and the De Anza Student Handbook, available online.

Students who engage in disruptive behavior—conduct that interferes with the instructional, administrative, or service functions of the course – can be subject to disciplinary action, including suspension and/or expulsion from the course and/or college. Specifically, cell phone interruptions, the use of iPods, habitual profanity or vulgarity, and continued willful disobedience will result in disciplinary action.

**Expected Preparation for Class:**

Students must come to class with the required assigned texts/textbook(s) each class period, and they must come prepared with all work completed, as assigned. Students should plan to spend a minimum of two hours outside of class for each hour spent in class to learn and make satisfactory progress in the class.

**Attendance, Drops, Withdrawal:**

Regular attendance is important for success in math class as each day's work builds upon what came before. You are expected to attend all classes, arrive on time & stay for the entire class. Late arrival/early departures are disruptive to the class and to your classmate's learning. The instructor reserves the right to drop students who miss more than 2 classes during the quarter or who miss any classes in the first two weeks. However the instructor may or may not perform such a drop/withdrawal.

**Educational Access:**

Please see instructor during office hours to discuss your situation confidentially if you have accommodations; you should see the instructor during the first week of class or as soon as you receive approval from the appropriate support service.

For information about eligibility, support services or accommodations due to physical or learning disability see:

- Disability Support Service (DSS): [www.deanza.edu/dss](http://www.deanza.edu/dss) Location: SCS-141 (408) 864-8753; TTY (408) 864-8748
- Educational Diagnostic Center (EDC): [www.deanza.edu/edc](http://www.deanza.edu/edc) Location: LCW 110; (408) 864-8839
- Special Education Division:; [www.deanza.edu/specialed](http://www.deanza.edu/specialed) (408)-864-8407

**Class Cancellation, Emergency:**

If class is canceled for any reason, or if an emergency causes campus to be closed, assume that any quiz, exam or due date scheduled on that date will be rescheduled to our next class meeting. If there are other changes, I will announce them in class after classes resume. Check the website and email; if necessary and if possible, I may post a message.



**Important Dates to Remember (De Anza College Academic Calendar):**

<b>Date</b>	<b>Event</b>
Monday, April 10	First day of Spring Quarter 2017.
<b>Saturday, April 22</b>	<b>Last day to add quarter-length classes. Add date is enforced.</b>
<b>Sunday, April 23</b>	<b>Last day to drop for a full refund or credit for all students (quarter-length classes only). Refund deadlines for all non quarter-length classes are in MyPortal, "View Your Class Schedule" link. Drop date is enforced. Last day to drop a class with no record of grade. Drop date is enforced.</b>
Friday, May 5	Last day to request pass/no pass grade. Request date is enforced.
<b>Friday, June 2</b>	<b>Last day to drop with a "W". Withdraw date is enforced.</b>
Saturday to Monday May 27 to 29	Memorial Day Weekend (NO CLASSES)
Monday to Friday June 26 to 30	Spring Final Exams.
Thursday, June 1	Last day to file for a spring degree or certificate
Friday June 30	Commencement Ceremony

**The professor reserves the right to make changes to the syllabus, including project due dates and test dates (excluding the officially scheduled final examination), when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.**