Math 10 – 24 (01517): *Elementary Statistics & Probability*   **Date/Time**: *Tuesdays & Thursdays, 1:30 pm – 3:45 pm (MCC12)*
Instructor: *Y. AuYOUNG*   **Office** : *E37*
Office Hours: *TTh 12:30 – 1:00 pm (e-mail auyoungyatman@fhda.edu), 1:00 – 1:30 pm (office, classroom) and by appointment*
        (Note: For your protection, I do not release/discuss any personal info (including student grade) by phone or email)

Welcome to Elementary Statistics. This is a demanding, but rewarding class. However, if you cannot commit to a minimum of 15 hours per week of study and group work, you should take this class in a quarter when you have time to learn. This is a collaborative class and you will be expected to work with your classmates both inside and outside of class (no exceptions). You are encouraged to form small study groups and work collaboratively in groups and relating the material throughout the course. Bring pencil, ruler, paper, a calculator (TI-83or 84), the text to all class meetings.

Prerequisite: *Passing grade (C or better) in Intermediate Algebra (Math 114) or Equivalent (or Placement Test)*
            English Writing 100 and Reading 100 (or Language Arts 100) or ESL equivalent courses (e.g. ESL 4 , or 24 and 72)

Text: *Introductory Statistics from OpenStax (by Illowsky and Dean), available http://openstaxcollege.org/textbooks/introductory-statistics. Students may download the text for free and print out the pages you want or purchase it from the bookstore. It is less expensive to buy the hardcopy at the De Anza Bookstore or online.*

Related Materials: *TI-83 PLUS (or 84) graphing calculator;* **small stapler**; *small pencil sharpener, no. 2 pencil and a* **brown** *scantron.(#2052)*

TI Calculator Instructions: *http://www.ti.com/calc*

Student Conduct: **You are required to participate in all class work. Any student disrupting class will be asked to leave. A student who refuses to leave the room will be dropped from the class and will be reported for further action.**

Cheating will not be Tolerated. **If anyone is caught cheating in any work (in class/take home), s/he will pay the consequences**

Cell Phones: *In the classroom, you* **must turn off all electronic devices, or set cell phones in vibrate mode.** *If a cell phone/pager rings in class, the student will have to leave and this will count as a full class absence. If this should occur during a quiz, test or the final exam, the student will receive a zero grade for that test. Cell phone cannot be used as a calculator or for any reason/purpose in any quiz/exam.*

Attendance: *Class attendance is mandatory and can earn up to 20 points for perfect attendance. You are expected to present promptly each class and stay for the entire class. Coming late or leave early is irresponsible, impolite, and disruptive to your classmates and is not acceptable. Each absence, tardiness for any reason will result in a loss of 2 points. Arriving to class late or leaving early will be counted as half absent. You may be dropped for missing 2 classes without a reasonable excuse.* **You must attend each class in the first week of class or you will be dropped.** *If you miss a class, please work with a fellow student to keep up with class activity. You are responsible for reading the material on your own and for turning in all assignments that is due on the day you return to class.*

Drop Policy: *A student who discontinues coming to class and does not drop the course will receive an F. Should you stop attending, you will not be automatically dropped.* **It is your responsibility to drop the class yourself.**

Homework: *The purpose of homework is to help you learn the course material. You are expected to do the chapter Practice before attempting the homework. The answers are in the book. You are* **required** *to do homework but it is not collected.* **Students who don't do homework do not succeed in math, any math! Please keep up with the assignments and your study on a regularly (daily)**.

Projects: *Projects are done in groups and use data collected by the group (max 4 group members). A project may contain/required info in as specified (see project requirements).* **No make-ups or late papers will be accepted.**

Labs: *You will* **not** *be able to complete most labs in class.* **No make-ups or late papers will be accepted.** *However, you may turn in labs early.* **Students not in attendance when labs are started will NOT be allowed to make-up the lab**. *No labs will be dropped.*

Quizzes: *Quizzes are closed book. Quizzes will test your understanding and completion of the homework problems. You will need to do the homework thoroughly and completely to do well on the quizzes.* **The lowest quiz grade will be dropped. No make-ups.**

Tests: *Tests are also closed book.* **The lowest test grade will be dropped. No make-ups for missed tests.** *Bring a small brown scantron. English is a second language students may bring an English translation dictionary.*

Final Exam: *A two-hour comprehensive exam will be given Tuesday, Dec 11, 2018*. **If you miss an exam/quiz, including the final exam, you will earn zero credit for that exam/quiz.** *Bring a small, brown scantron (#2052).*

Grade:			
Quizzes (6 @20): 100 *(drop the lowest score)*	A–:539 – 556	A: 557 – 580	A+: above 580
Labs (4 @12) : 48	B⁻: 479 – 496	B: 497 – 519	B+: 520 – 538
Attendance : 20		C: 419 – 459	C+: 460 – 478
Project : 30	---		
Tests (3 @100) : 200 *(drop the lowest score)*	D⁻: 358 – 377	D: 378 – 399	D+:400 – 418
Final Exam : 200	F: below 358		
Total : 598			

Homework, Practice Exercises and Labs Info

Chapter	Projects (Appendix D)	Home work		Stats Lab
		Practices	HW Problems	
1	**1. Univar9ate Data Section**	**1 – 10,** 16 – 22, 40	49, 50 – 52, 63, 64, 73, 76, 80, 82, 84, 88, 90	1.1 Data Collection (P41) **1.2 Sampling (p43)
2	Univariate Data (p817) Checklist (p818)	**4,** 8, 9, 12 – 17, **20,** 23, 25, 33, 56 – 58, 59 – 64	77, 88, 108, 114, 122	*2.1 Descriptive Statistics(p119)
3		2 – 5,18, 19, 24 – 35, 40, 44 – 57	80, 90 – 92, 101 – 108, 121, 122, 123, 124	*3.1 Probability topics – M&M (p195)
4	**2. Continuous Dist and CLT** Continuous Distributions and CLT (p818) Part I: Sampling Part II: Possible Distrible Distution Part III: CLT Experiments Checklist (p820)	13 – 17, 19 – 22, 28 – 34, 37 – 44	69, 74, 76, 79, 93, 96, 98, 99	4..1 Discrete Dist – Playing Card (p252) 4.2 Discrete Dist – Lucky Dice (p255)
5		1 – 11, 14, 15, 34 – 45, 46 – 55, 71	74, 76, 87, 98	**5.1 Continuouss Distribution (p. 313) (50 Random numbers between 0 and 1)
6		5 – 7, 19, 41– 42, 46 – 49, 50 – 54, 56 58, 59,	62, 63, 65, 73, 75, 81, 82, 87	**6.1 Normal Dist – Lap Times (p351) *6.2 Normal Dist – Pinkie Length (p353)
7		1 – 6, 16 – 21, 25, 26,	61, 63, 65, 75, 78 – 80, 85	7.1 CLT – Pocket change (p387) **7.2 CLT – Cookie Recipes (p390)
8	**3. Hypothesis Testing** Hypothesis Testing – Article – Read the Artucle (p 829(– Read the Introductions Checklist (p820)	6 – 12, 33, 37, 49 – 61 79 – 94	97, 99, 100, 107, 115, 120, 131	**8.1 CI – Home Costs (p435) 8.2 CI – Place of Birth (p437) 8.3 CI – Women's Heights (p439)
9		1 – 10, 11 – 20, 21 – 23, 27 – 31, 36, 38 – 40, 49 – 61	62, 63, 66, 69, 73, 77, 78,	*9.1 H Testing Single mean/proportion (p494)
10		1 – 18, 36 – 40, 63 – 67, 73 – 77	79, 87 – 88, 91, 93, 103 – 105, 109, 116, 117, 124 – 132	**10.1 Hypothesis Testing for Two means and Two proportions (p548)
11	**4. Bivariate Data, Linear Regression and Univariate Data** Bivariate Data, Linear Regression and Univariate Data (p821) Part I: Bivariate Data Part II: Univariate Data Checklist /Due Dates (p872)	1 – 5, 9 – 13, 23 – 25, 33 – 40	69 – 71, 72, 77, 78, 85, 87, 93, 94 – 97	*11.1 Chi Sq – Goodness-of-Fit (p599) 11.2 Chi Sq – Test of Independence (p603)
12		1, 4 – 5, 8 – 11, 17 – 19, 32, 35, 51 – 56	57, 61, 65, 67, 70, 76, 78	12.1 Regression – Dist from School (p659) 12.2: Regression – Textbook Cost (p661) **12.3: Regression – Fuel Efficiency (p663)
13		1 – 8, 9 – 15, 17 – 2224, 27 - 31	59, 60, 61 – 63, 64, 69	**13.1 One-Way ANOVA (p710)

Tests: *Reviews all Notes, Practices, and Homework problems before any Mid-Term Test and before the Final Exam*
- **Test 1** *(Ch 1, 2 and 3)*   **Test 2** *(Ch 4, 5 and 6)*   **Test 3** *(Ch 7, 8, 9 and 10)*   **Final Exam** *(all Chapters: 1 thru 13, including ANOVA)*

Project(s): (Appendix D)

- *Submit **ONE** typed and stapled packet per group. **Report must include the following info and sections.***
- ***Cover sheet (contains the Project Title, first and last name of each member, and the due date)***
- ***Scope/Purpose section of the Project describes the overall scope/purposes of this project as well as each part individually***
- *State **the problem (state exactly what you are going to do, study, or resolve)***
- *Approach or Methodology Section Explains or state how to collect data and how to resolve the problem*
- *Data Section for all data info used to resolve the Problem (describe, in detail, sampling skill/technique, the sampling method used, and the data collection process)*
- *Plan and conduct your Survey (include the form used and the all raw data as collected – remember, some credits are allocated to "sampling".)*
- *An "Introduction" and/or "Analysis" section, if applicable*
- *Must include all appropriate "graphs" and "calculations" which are required to support your work or study*
- *Must include a "Lesson Learnt" section as the last section of your report (you = each individual member and also as a group)*
 – What the group and each member learnt by doing this project; the challenges you had and how you overcome the challenges)
- *Attach, at the very end of the report, **an "individual contribution list"** (self-evaluate, rating, and contribution made by each group member.*

Labs: *Put individual stapled member's lab in a folder – one folder per group. Submit your folder within the first 2 minutes when the lab is due.*

Topics-to-skip: *Ch 3 (**Venn Diagrams**)   Ch 4 (Geometric, Hypergeometric, Poisson Distributions)   Ch 5 (**Conditional probability in Uniform Distribution**)*
 *Ch 7 (**CLT for Sums**)   Ch 11 (Test of One Variance)   Ch 13 (Tests for Two Variances)*

Reminder
- *Bring your Text, TI calculator, pencil and blank paper to all class meetings and a scantron to all tests and the final exam. .*
- ***Take-home tasks (including Labs and Projects) must be turned in within the first 3 min when it is due.** All papers turned in must be **NEAT** and **stapled before class** (**no doggy-ears and no paper clips**) or could **not** earn good credits.*
- *You must turn in **all assignment (Lab and project etc) on time**.*
- ***Cell phones, ipods, and any other electronic devices must be turned off or to vibrate mode before entering the classroom. Cannot use them while you are in the classroom**. **Absolutely no noise** from them! If one goes off during class, we will all stop what we are doing and stare at you. If one goes off during a quiz, test or exam, you risk having your paper taken from you and your quiz/test/exam is over.*
- *As a college policy: Absolutely **no food** and **no drink** in the classroom.*
- *Students are encouraged to form **study groups**. Free tutors may be available in the tutorial center (**S43**).*
- ***Graphs** should be constructed with a ruler <u>or</u> done by computer.*
- *Your **grade** is based on total points you earned and it is <u>not</u> calculated by a percentage or a "curve"*
- ***Quiz/Test/Final Exam and Lab/Project report, any <u>word problems/questions must be answered with simple complete English sentences</u>.***

De Anza College – Fall 2018
Math 10 – 24 Tentative Schedule (this schedule is subjected to be changed as we needed)

wk	Month	Monday	Tuesday	Wednesday	Thursday	HW/Quizzes/Test in this week
1	Sept	24 First Day of Classes	25 **Ch 1** *Read text material before each class*	26	27 **Ch 1** *Begin Calculator, lab Ch Practice & HW*	*Read material before each class* *Begin HW, chapter practice, lab, and calculator practices*
2	Oct	1	2 **Ch 2**	3	4 **Quiz 1** **Ch 2** *Start Project*	*Quiz 1 (Ch 1 and 2)* *Last day to add: Sat, Oct 6* *Last Day to drop with no record of Grade: Sun, Oct 7*
3	Oct	8	9 *Start Project* **Quiz 1** **Ch 3**	10	11 *Lab3.1* **Ch 3**	**Lab 3.1 M&M Probability Exper (Lab is due 1 week after assigned)**
4	Oct	15	16 **Ch 4**	17	18 **T1** **Ch 4**	*T1 (Ch 1 – 3)* *Last day to Request P/NP Fri (10/19)*
5	Oct	22	23 **Quiz 2** **Ch 5**	24	25 *Lab 5.1* **Ch 5 – 6**	*Quiz 2 (Ch 3 and 4)* **Lab 5.1 Continuous Distribution**
6	Oct/ Nov	29	30 **Ch 7**	31	1 **Quiz 3** **Ch 8**	*Quiz 3 (Ch 5 and 6)*
7	Nov	5	6 *Lab 7.2* **Ch 8**	7	8 **T2** **Ch 9**	*T2 (Ch 4 – 6)* **Lab 7.2 (CLI – Cookie Recipes)**
8	Nov	12	13 **Ch 9**	14	15 **Quiz 4** **Ch 10**	*Quiz 4 (Ch 7 and 8)* *Last day to drop with a "W": Sat, Nov 16*
9	Nov	19	20 *Lab10.1* **Ch 10 – 11** **Project Due (a typed and stapled packet)**	21	22 **Thanks Giving Holiday**	**Lab 10.1 Hypothesis Testing for Two Means and Two Proportions** *Thanksgiving Recess (Nov 22– 23)*
10	Nov	26	27 **Quiz 5** **Ch 11**	28	29 (Lab 4 due) **T3** **Ch 11 – 12**	*Quiz 5 (9 and 10)* *T3 (Ch 7 – 10)*
11	Dec	3	4 **Quiz 6** **Ch 12 – 13**	5	6 **Ch 13 and About the Final Exam**	*Quiz 6 (Ch 11 and 12)*
12	Dec	10	11 **Final Exam (1:45 – 3:45pm)**	12	13	**Final Exam (all chapters)**
Reminder:		*Project(s)* *(Appendix D)* *(typed and stapled packet)*	**4 Labs from** 1.2/p 43 Sampling Experiment 3.1/p 195 M&M Probability Experiment 5.1/p 313 Cont Distribution (50 Random no. between 0 & 1 6.1 Normal Dist/p 351 Lap Times 7.2 CLT/p.390 Cookie Recipes 8.1 CI/p 435 Home Costs 10.1 Hypothesis Testing/p548 Two Means & Two Proportions 12.3 Regrssion/p.663 Fuel Efficiency 13.1 ANOVA /p710 One-Way ANOVA	6 Quizzes (drop 1 score) 1. Ch 1 and Ch 2 2. Ch 3 and Ch 4 3. Ch 5 and Ch 6 4. Ch 7 and Ch 8 5. Ch 9 and Ch 10 6. Ch 11 and Ch 12	3 Tests (drop 1 score) T1 (Ch 1, 2, 3) T2 (Ch 4, 5, 6) T3 (Ch 7. 8. 9. 10)	a. 3 Tests drop the lowest test score b. 6 Quizzes drop the lowest quiz score c. 4 Labs (choose from some chapters) d. Project (at least one project) 2-hour Final EXAM (ALL Chapters)

*Winter 2018 Quarter Classes start Monday, Jan 7, 2019. Enjoy the Christmas and New Year Holidays!

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.