Crafton Hills College

Math 110: Statistics + Probability

Course ID: _____

Instructor: Brandi Bailes
Office: CHL 201A
Email: bbailes@craftonhills.edu
Website: www.craftonhills.edu\bbailes

Required Textbook: Essentials of Statistics (5th Edition) – Triola.

Required Materials:

1. Computer/Internet Access
2. Microsoft Excel (free through Crafton Hills College)
3. MyMathLab Access

Prerequisite: Intermediate Algebra, Math 095 or by the Crafton Hills assessment process.

I strongly recommended co-enrollment in Math 117 if you are not comfortable with computers or Excel.

Instructor reserves the right to modify this syllabus. Any changes will be announced during a class session, sent via email, and/or posted as an announcement in MyMathLab. Those students that are absent are responsible for any announced changes to the syllabus.

Continued enrollment implies you understand what is required of you.

Student Learning Outcomes:

1. Student uses appropriate measures of central tendency and dispersion in describing a data set.
2. Student uses appropriate measures of correlation in describing a data set.
3. Student uses appropriate inferential statistics for testing hypotheses.

Classroom Policies:
You are here to learn. Do so by taking an active role in the classroom. But, keep in mind:

1. All electronic devices should be on silent not vibrate and used for legitimate emergencies only.
2. I reserve the right to ask you to leave should your behavior become disrespectful of the open learning environment.[1]
3. Food is distracting and messy; it should not be brought to class. Any drinks you bring must have a secure lid to avoid spills.

Basic Course Information

Attendance: It is extremely important that you attend every class session in order to be successful in this math class. Leaving early or arriving late is disrespectful and disruptive. If you miss any lecture, you will be responsible for the material or any announcement(s) presented on that day. If you miss more than two consecutive classes, you may be dropped from the course.

Dropping: Do not assume that you will automatically be dropped. Poor attendance may result in being dropped from the course. Any student that misses an exam may be dropped from the course.

Extra Credit: There may be random, unannounced opportunities for extra credit. These may include producing your organized homework or

notes, producing your syllabus, or special problems or instructions on quizzes and exams. If you are absent, then you miss the opportunity. There are no make-up chances for extra credit.

Academic Honesty: Plagiarism is presenting someone else's work as your own. Plagiarism/cheating **WILL** result in your forfeiting credit for the assignment that includes plagiarism and **MAY** result in your receiving an F for the course. This offense is very serious and may result in expulsion.

Outside of Class Coursework: Be ready to spend approximately 12 hours each week working on assignments. If you are having difficulty and require tutoring, you may receive free tutoring in the LRC/SLA. *Note that we will not be covering the first section of any chapter. You are expected to read these sections on your own before we begin the chapter.*

Calculators: Calculators will be allowed. Please bring them with you. **Excel is the best calculator you can use in this class.**

Students will be evaluated on the following:

Homework Assignments – 15%: Homework is listed in MyMathLab. Although your homework is on line, it is imperative that you write out your answers in an organized manner. This will help you study for exams and help myself or a tutor understand your reasoning and work if you come to us for help. You will not receive full credit on any in class assignment that is not well organized.

Quizzes – 20%: If you miss a quiz, you will be given a grade of zero for that quiz. The way in which you work a problem is important.

Make a note:

1) No solution without supporting work will receive full credit (if any).
2) Use of pen on quizzes and exams is prohibited and may result in reduced credit.
3) No late homework is accepted. All your work must be shown. Your lowest two homework sections will be dropped.
4) No make-up quizzes will be given. Your lowest quiz will be dropped.
5) There are no make-up exams. No exams are dropped.
6) If you miss the first exam, you may be dropped.
7) If you miss the final, you fail the course.
8) If you miss two consecutive classes, you may be dropped from the course.
9) **Grading Scale:**

A	**100% - 90%**
B	**89% - 80%**
C	**79% - 70%**
D	**69% - 60%**
F	**Below 59%**

Exams – 40% (10% each): Four exams will be given during the semester. You may be required to show your student ID to take the exam. Cheating of any kind during the exam will result in a score of zero. If you miss the first exam, you may be dropped from the course. If you miss an exam, you will be given a grade of zero for that exam. Again, organization of your work is imperative.

Final Exam – 25%: A comprehensive written final exam will be given which will include material covered throughout the entire semester. Everyone is required to take the final exam. Failure to take the final exam during the scheduled final exam date/time will result in an "F" grade in the course. **The final exam will be**

Flow of Instruction

Special Note: Once information is presented, it cannot be presented again. We lack adequate time. It is of the upmost importance that you are prepared, alert, and involved for lectures.

Sections	Approximate Number of Lectures	Basic Learning Outcomes The basic learning outcomes do not list every learning outcome.
1.2-1.4	1	1. Identify types of data and sampling methods. 2. Apply basic definitions to statistical situations. 3. Begin working on statistical and critical thinking skills.
2.2-2.4	2	1. Create frequency distributions and histograms using Excel. 2. Recognize and read common graph types.
3.2-3.4	2	1. Calculate measures of center, percentiles, and 5-number summaries using Excel. 2. Create box plot using a 5-Number summary.
Exam 1		
4.2-4.6	4	1. Calculate probabilities using addition and multiplication rule. 2. Calculate "at least one" probabilities. 3. Apply compliments to probability calculations. 4. Draw and read Venn diagrams. 5. Count outcomes using basic counting rules.
5.2-5.4	2	1. Create and read probability distributions. 2. Calculate binomial probabilities using Excel. 3. Calculate parameters for the binomial distribution.
6.2, 6.3, and 6.5	3	1. Apply key concepts of the normal distribution 2. Calculate probabilities for the uniform and normal distributions. 3. Apply the normal distribution to word problems that require conversions to the standard normal distribution. 4. Identify problems that require the central limit theorem. 5. Calculate probabilities using central limit theorem.
Exam 2		
7.2-7.4	2	1. Calculate and interpret confidence intervals for proportions, means, and standard variation/variance. 2. Find Z-values/critical values. 3. Find critical values from the t-distribution and Chi squared distribution. 4. Calculate the margin of error. 5. Interpret the meaning of a confidence level. 6. Calculate the samples size required for confidence intervals.
8.2-8.5	3	1. Apply the 8 steps of hypothesis testing for proportions, means, standard deviation, and variation. 2. Interoperate the conclusion of a hypothesis test. 3. Find p-values and critical values using Excel. 4. Emphasize the formation of a conclusion based on the original claim and the rejection or non-rejection of the null hypothesis.
9.2	1	1. Complete a hypothesis test comparing two proportions.

Exam 3		
10.2-10.4	3	1. Calculate and interoperate the regression correlation coefficient. 2. Complete a hypothesis testing for correlation using Excel. 3. Identify the difference between correlation and causation. 4. Calculate and interpret the line of regression using Excel. 5. Identify the best approximation for a given x-value using Excel. 6. Complete a rank correlation hypothesis test using Excel for calculations. 7. Identify the difference between rank correlation, correlation, and linear correlation.
11.2-11.4	3	1. Complete a Goodness-of-fit hypothesis test using Excel for calculations. 2. Interpret the result of a Goodness-of-fit hypothesis test. 3. Complete a contingency table hypothesis test for independence using Excel for calculations. 4. Interpret the result of a contingency table hypothesis test for independence. 5. Compete a hypotheses test for multiple means using one-way ANOVA in Excel. 6. Interpret the result of multiple means.
Exam 4		
Review	2	Review exams 1 – 4 for Final Exam
Final Exam		