Elementary Statistics
Math 119
Fall, 2012

Monday/Wednesday 4 units
9:40 a.m. – 11:30a.m. Code 10445
Room 2725

Monday/Wednesday 4 units
11:40 a.m. – 1:30 p.m. Code 10446
Room 2725

Instructor: Mrs. Riehle ***Phone:*** 1-760-355-6521 ***Email***: betsy.riehle@imperial.edu
***Office*:** Rm. 2761

Office hours: Monday & Wednesday 9:00 – 9:30 a.m. and 2:00 - 2:30 p.m.
Tuesday & Thursday 10:30 a.m. - 11:30a.m.

Office by Appointment times are also available

Prerequisite: Math 90 with a grade of "C" or better

Course Description:

Graphical representation of statistical data, calculations and uses of various averages, measures of variability, introduction to probability distributions, confidence intervals, sample size determination, hypothesis testing, ANOVA, Chi-square, and regression analysis. Use of technology will be given throughout the semester.

Student Learning Outcome: By the end of the semester students will be able to:

- Identify, compare, and contrast two articles that include both descriptive and inferential statistics on the same research topic.
- Apply their knowledge of basic descriptive statistics
- Apply knowledge of statistical inferences to conduct formal significance tests concerning single populations
- Apply techniques of linear modeling to explore the relationship between two numerical variables

Course Objectives:

Through various activities and assessments:

1. The student will distinguish the various ways of organizing, displaying, and measuring data.
2. The student will derive the numerical relationship that exists between bivariate data sets.
3. The student will demonstrate an understanding of the theory of probability and proficiency in solving problems of this nature.
4. The student will compute and interpret expected values and variance, and learn about the binomial distribution for discrete random variables.
5. The student will compute and interpret expected values and variance, and learn about the normal distribution for continuous random variables.
6. The student will examine the joint probability structure of two or more random variables and understand the limiting behavior of the sum of independent random variables as the number of the sample becomes larger.
7. The student will use the various types of distributions that are derived from the normal distribution.
8. The student will calculate and interpret confidence intervals for a population mean to show how probability connects to this type of statistical inference.
9. The student will use hypothesis testing as a formal means of distinguishing between probability distributions on the basis of random variables generated from one of the distributions.
10. The student will compare the means of the data from experiments involving more than two samples, including the single factor analysis of variance (ANOVA).
11. The student will fit a straight line to the given data in graphical form.
12. The student will make use of Chi-square distributions to analyze counts.

Text: *Essentials of Statistics* *4th edition (soft bound)*
Author: Mario Triola

Math XL Access Code (this may be purchased with the text or separately)

Materials: Scientific Calculator – **A Texas Instrument TI-30X IIS is recommended**

1 inch ring binder notebook and dividers

Grading: The semester grade will be based on an accumulation of points:

Homework – 100 points (Math XL percentage)

Exams - 100 points each
(3 tests will be given during the semester see schedule for dates)

Technology Activity – 100 total points
(There will be 6-7 Tec. Activities – points will vary)

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
0% - 59%	F

Project - 50 points

SLO Assessment - 20 points

Notebook - 30 points (graded 3 times @ 10 points each)

Final Exam - 150 points
(Wednesday, Dec. 5, comprehensive)

Grade Record

You can always know your grade if you keep a record: add all your points and divide by the total points possible as of that time. This will give you a percentage of your points. Use the scale above to translate into a letter grade.

Test 1 _____ Project _____ Tec. 1 _____ Tec. 5 _____

Test 2 _____ SLO Assessment _____ Tec. 2 _____ Tec. 6 _____

Test 3 _____ Homework _____ Tec. 3 _____ Tec. 7 _____

Tec. 4 _____ Final Exam _____

Notebook _____, _____, _____

Comments:

1. Attendance is required (2 absences are allowed, 3 tardies equal 1 absence) Leaving class early will be counted as an absence unless cleared with instructor in advance.

2. **If you leave the classroom for any reason during a test, you will not be allowed to continue working on the test.**

3. **Homework (MathXL) can be accessed online. You will need access to a computer. You may use the computers in the Math Lab. Check for new assignments after every class meeting.**
Every assignment has a due date . Make sure you know the due date.

4. No Make-Up Tests will be given!! If you miss a test your score will be recorded as a zero.
(Possibility of rescheduling test with at least one class meeting advanced notice)

5. No Food or Drinks consumed in the classroom (campus rule)
(water bottles are o.k. if you keep the cap secure)

6. Cell Phones must be turned off while in the classroom
This rule will be strictly enforced during tests!!!

7. Any Student creating a disturbance or disrupting class may be dropped. (be respectful of other students . . . do not use disrespectful or offensive language)

8. Tutoring is available in the Math Lab or Learning Center (Library)

9. Any evidence of cheating will result in a failing grade!!

10. The last day to drop with a grade of **"W"** is **November 10, 2012.**

11. Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible:

DSP&S: Room 2117
Health Science Building

1-760-355 – 6312

Elementary Statistics
Math 119
Schedule, Fall, 2012 **

Text: Essentials of Statistics 4th edition — Instructor: Mrs. Riehle
Mario Triola

Week	Dates	Content	Reading/Homework Assignment
1	August 20 August 22	Introduction to Statistics Types of Data	Sec. 1-1 and 1-2 Sec. 1-3, 1-4, 1-5
2	August 27 August 29	Summarizing and Graphing Data Histograms and Other Graphs	Sec. 2-1, 2-2, 2-3 Sec. 2-3, 2-4, 2-5
3	September 3 September 5	**Holiday/No Class (Labor Day)** Statistics for Describing Data	 Sec. 3-1, 3-2, 3-3
4	September 10 September 12	Exploring and Comparing Data Introduction to Probability	Sec. 3.4 Sec. 4-1, 4-2
5	September 17 September 19	Rules of Probability **Test – Chapter 1, 2, 3**	Sec. 4-3 and 4-4
	September 24 September 26	Conditional Probability& Counting Discrete Probability Distributions	Sec. 4-5 and 4-6 Sec. 5-1 and 5-2
7	October 1 October 3	Binomial Distributions Normal Probability Distributions	Sec. 5-3 and 5-4 Sec. 6-1, 6-2, and 6-3
8	October 8 October 10	Central Limit Theorem **Lab Activity** **(Meet in Lab. . . Location Pending)**	Sec. 6-4 and 6-5
9	October 15 October 17	Approximation of Binomial Estimates and Sample Sizes **Test – Chapter 4, 5, 6**	Sec. 6-6 Sec. 7-1 and 7-2
10	October 22 October 24	Confidence Intervals T Distribution Chi Square Distribution	Sec. 7-3 and 7-4 Sec. 7-5
11	October 29 October 31	Hypothesis Testing Testing a Proportion and Mean	Sec. 8-1 and 8-2 Sec. 8-3 and 8-4
12	November 5 November 7	Testing A Mean and Variance Inferences from Two Samples **Project Due !!!**	Sec. 8-5 and 8-6 Sec. 9-1 and 9-2
13	November 12 November 14	**Holiday/No Class Veteran's Day** **Test Chapters 7, 8, 9**	
14	November 19 November 21	Correlation Regression	Sec. 10-1, 10-2 Sec 10-3
15	November 26 November 28	Goodness of Fit ANOVA/Analysis of Variance F- Distribution	Sec. 11-1 and 11-2 Sec. 11-3 and 11-4
16	December 3 December 5	**SLO Activity** **Final Exam (vocabulary, symbols, short calculations, use of calculator)**	 **Chapters 1-11**

** I reserve the right to change this schedule with due notice to students