Imperial Valley College
SCIENCE, MATH, AND ENGINEERING DIVISION
MATH 119
ELEMENTARY STATISTICS
Spring 2013
CRN: 20294 and 20296

Class Location/Dates/Times:
20294: Monday and Wednesday from 3:05 pm to 5:10 pm in Room 2728
20296: Tuesday and Thursday from 3:05 pm to 5:10 pm in Room 2721

Credit Hours: 4 Lec
Instructor: Mr. Allyn Leon
Office: 2760.2
Phone: (760) 355-6523
Email: allyn.leon@imperial.edu
Website: https://imperial.blackboard.com/ and http://www.mathxl.com
Office Hours:
Monday from 1:00 pm to 3:00 pm
Wednesday 9:40 am to 10:10 am and from 12:50 pm to 1:20 pm
Tuesday and Thursday from 9:40 am to 10:10 am

Prerequisites: MATH 090 with a grade of "C" or higher, or appropriate placement.
Recommended Preparation: ENGL 101 or ENGL 111.

Final exam is on <u>Monday, May 6</u> OR <u>Tuesday, May 7</u>, 2013
Last day to withdraw from the class with a "W" is Saturday, April 13, 2013

REQUIRED TEXTBOOKS AND ELECTRONIC RESOURCES

Textbook: Essentials of Statistics, 4E by Triola, Pearson Publisher.
You will have three options for the textbook.
Option 1: Purchase the textbook new (bundled with MathXL)
Option 2: Purchase the textbook used, and get MathXL separate
Option 3: You may choose to not buy the physical textbook, and just purchase
MathXL access. You will have access to the textbook pages through the homework...
Some people prefer the second option because it is potentially less expensive. However, many people do prefer having a physical copy of the book. You may choose either of the above options for this class, as long as you have some sort of access to MathXL, as this is how you will complete your homework.
- When you register in MathXL, you will be asked to enroll in a course. Use the Course ID: **XL14-Z1R7-801Y-0WT2** (this includes zeros, and not o's).
- A basic calculator, like a TI-30 (costs around $10) is recommended, or you can go with a graphing calculator, like the TI-83 or TI-84; it really depends on what other math or science classes you plan on taking later on.

<u>**COURSE DESCRIPTION**</u>
Graphical representation of statistical data, calculations, and uses of various averages, measures of variability, introduction to probability, probability distributions, confidence intervals, sample size determination and hypothesis testing, ANOVA, linear regression and Chi-square analysis. Students will learn to use technology to find confidence intervals, test statistics, regression lines, and to produce graphics. This course also provides supervised practice in the appropriate use of technology designed to assist students in calculations required in beginning statistics. (CSU, UC)

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.

STUDENT LEARNING OUTCOMES

By the end of this course, you will be able to (1) identify, compare, and contrast two articles that include both descriptive and inferential statistics on the same research topic, (2) demonstrate your knowledge of basic descriptive statistics, (3) apply your knowledge of statistical inference to conduct formal significance tests concerning single populations, and (4) apply techniques of linear modeling to explore the relationship between two numerical variables.

COURSE COMPONENTS

ASSIGNMENTS AND LATE WORK POLICY
- There will be ***homework exercises*** assigned from every section that we cover. These need to be completed in MathXL. There will be 40 assignments in all, each worth 5 points.

TESTS
- There will be four (4) tests during the semester, . Test 1 and Test 3 will be online in MathXL, and will be worth 100 points each. Tests 2 and 4 will be in person (during class), and will be worth 200 points each.
- **There will be no make-up exams**. If you miss an exam, the test will be recorded as a zero, and **the final exam percentage** will be used to replace that score at the end of the semester.

TECH ACTIVITIES
- There will be a series of four (4) activities in which we use Minitab, Excel, or Fathom to go through statistical computations. Each will be worth 50 points.

GRADING POLICY
Your grade will be comprised of the following items:

40 Homework assignments @ 5 points each	200 points	~20%
4 Tech activities @ 50 points each	200 points	~20%
4 Tests (Test 1 & 3 @ 100 points, Tests 2 and 4 @ 200 points)	600 points	~60%
Total	1000 points	100%

Your final grade will be based on the following points and percentages:

90% to 100%	900-1000 points	A
80% to 89%	800-899 points	B
70% to 79%	700-799 points	C
60% to 69%	600-699 points	D
Below 60%	Below 600 points	F

The **MathXL gradebook** is where you want to go to check your grades and progress. You can do this at any time to get an idea of how you are doing in the class.

TENTATIVE SCHEDULE

Week of	Description/Readings/Tests
01/14	Introduction and Sections 1.2, 1.3, 1.4, 1.5
01/21	Sections 2.2, 2.3, 2.4, 2.5, 3.2, 3.3
01/28	Section 3.4 and **Tech 1**
02/04	**Test 1 (online)**
02/11	Sections 4.2, 4.3, 4.4, 4.5, 4.6
02/18	Sections 5.2, 5.3, 5.4, 6.2, 6.3, 6.4
02/25	Sections 6.5, 6.6, **Tech 2**
03/04	**Test 2 (in class)**
03/11	Sections 7.2, 7.3, 7.4, 8.2
03/18	Sections 8.3, 8.4, 8.5, 9.2
03/25	Sections 9.3, 9.2, **Tech 3**
04/01	Spring Break
04/08	**Test 3 (online)**
04/15	Sections 10.2, 10.3, 11.2, 11.3
04/22	Section 11.4
04/29	**Tech 4** and Review
05/06	**Final Exam on <u>Monday 05/06</u> OR <u>Tuesday 05/07</u> (in class)**

IVC POLICIES
- Under IVC policy, students are expected to attend every session of class in which they are enrolled. If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. I will not drop you from the course. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.
- 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. The DSP&S office is located in Room 2117, in the Health Sciences Building. Their phone number is (760) 355-6312.
- Student Responsibilities and Expectations: You are expected to attend class on a regular basis. Make sure you come to every class meeting. You will find it very hard to succeed in this class if you do not come to class regularly. Make sure that you read ahead in the textbook and that you work out the problems that I have assigned. Math is like playing the piano; the more you practice, the better you get.