

### Basic Course Information

Semester	<b>Fall 2019</b>	Instructor Name	<b>Oscar J. Hernandez</b>
Course Title & #	<b>Elementary Statistics Math 119</b>	Email	<b>Oscar.hernandez@imperial.edu</b>
CRN #	<b>10126 and 11633 (Support)</b>	Webpage (optional)	
Room	<b>2723</b>	Office	<b>Room 2767/1</b>
Class Dates	<b>August 19 – December 14</b>	Office Hours	<b>MW 9:15 - 10:15 T and TR 13:35 – 14:35</b>
Class Days	<b>T and TR.</b>	Office Phone #	<b>(760) 355-5739</b>
Class Times	<b>10:15 - 12:20 (Lecture) 12:30 - 13:35 (Support)</b>	Office contact if student will be out or emergency	<b>Call my office Phone # (760) 355-5739 or send an e-mail.</b>
Units	<b>4 (lecture) and 1.5 (Support)</b>		

### Course Description

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)

### Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

- 1 Determine and interpret a confidence interval for a population mean. (ILO2, ILO4)
- 2 Apply statistical inference to conduct formal significance tests concerning single populations. (ILO2)
- 3 Demonstrate the ability to use technology in computing and interpreting basic descriptive or inferential statistics. (ILO2, ILO4)
- 4 Apply techniques of linear modeling to explore the relationship between two numerical variables. (ILO2)

### Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Distinguish the various ways of organizing, displaying, and measuring data.
2. Derive the numerical relationship that exists between bivariate data sets.
3. Demonstrate an understanding of the theory of probability and proficiency in solving problems of this nature.
4. Compute and interpret expected values and variance, and learn about the binomial distribution for discrete random variables.
5. Compute and interpret expected values and variance, and learn about the normal distribution or continuous random variables.
6. 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. Use the various types of distributions that are derived from the normal distribution.

8. Calculate and interpret confidence intervals for a population mean to show how probability connects to this type of statistical inference.

9. 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. Compare the means of the data from experiments involving more than two samples, including the single factor analysis of variance (ANOVA).

11. Fit a straight line to the given data in graphical form.

12. Make use of Chi-square distributions to analyze counts.

### Textbooks & Other Resources or Links

Mario F. Triola. *Elementary Statistics* (13<sup>nd</sup> Edition)). Pearson.

Mymathlab Access Code

### Course Requirements and Instructional Methods

#### A. PREREQUISITES, if any:

MATH 091 or

MATH 090 with a grade of C or better  
or appropriate placement.

#### B. RECOMMENDED PREPARATION, if any:

ENGL 110 or ENGL 101 or

READ 111 (Formerly ENGL 111)

**Assignments( Study Guides) are on Canvas, all tests and final exam will be at classroom, homework is done at Mymathlab, Check all Due Dates.**

Audio Visual, Demonstration, Discussion, Computer Assisted Instruction, Group Activity, Individual Assistance, Lab Activity, Lecture, Simulation/Case Study, Distance Learning.

Out-of-class Assignments:

A typical out of class assignment would be as follow:

1. Complete an assigned list of exercises on an online math homework program such as Mymathlab
2. Read the tutorial and sample exercises as needed.
3. Complete an individual or team project on statistical methods: Identify, compare, and contrast two articles that include both descriptive and inferential statistics on the same research topic.
4. Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit is expected

### Course Grading Based on Course Objectives

#### Grading:

Four Tests (4)	400 points
Homework	100 points
Project	100 points
Final Exam	200 points
<b>TOTAL POINTS</b>	<b>800 POINTS</b>

After all of your scores have been totaled, final grades will be assigned as follows:

90 % - 100 %	<b>A</b>
80 % - 89 %	<b>B</b>
70 % - 79 %	<b>C</b>
60 % - 69 %	<b>D</b>
Below 60%	<b>F</b>

### Attendance

#### Required language

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class, Deadline to drop with a "W" : May 11, 2019. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

### Classroom Etiquette

- **Electronic Devices:** Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- **Food and Drink** are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed.
- **Disruptive Students:** Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
- **Children in the classroom:** Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

### Academic Honesty

- **Plagiarism** is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to 'cite a source' correctly, you must ask for help.
- **Cheating** is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

### Additional Help – Discretionary Section and Language

- **Canvas support center:** <http://community.canvaslms.com/docs/DOC-10701>
- **Learning Labs:** There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Study Skills Center (library). Please speak to the instructor about labs unique to your specific program.
- **Library Services:** There is more to our library than just books. You have access to tutors in the Study Skills Center, study rooms for small groups, and online access to a wealth of resources.

### Disabled Student Programs and Services (DSPS)

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 Building 2100, telephone 760-355-6313, if you feel you need to be evaluated for educational accommodations

### **Student Counseling and Health Services**

Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see <http://www.imperial.edu/students/student-health-center/>. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

### **Student Rights and Responsibilities**

Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities, please refer to the IVC General Catalog available online at [http://www.imperial.edu/index.php?option=com\\_docman&task=doc\\_download&gid=4516&Itemid=762](http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762)

### **Information Literacy**

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at <http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/>

**Anticipated Class Schedule / Calendar**

<b>Tentative Date</b>	<b>Topic</b>	<b>Notes</b>
Aug 20 - 22	Summarizing Data and Graphing Data 2.1 Frequency Distributions 2.2 Histograms 2.3 Graphs that Enlighten and Deceive	Chapter 2
Aug 27 – 29	Statistics for Describing, Exploring and Comparing data 3.1 Measures of Center 3.2 Measures of Variation 3.3 Measures of Relative Standing and Boxplots	Chapter 3
<b>September 3</b>	<b>Test #1 Chapters 2 and 3</b>	
Sep 5 - 12	Probability 4.1 Basics Concepts of Probability 4.2 Addition Rule and Multiplication Rule 4.3 Complements and Conditional Probability. 4.4 Counting	Chapter 4
Sep 17 - 19	Discrete Probability Distributions 5.1 Probability Distributions 5.2 Binomial Probability Distributions 5.3 Poisson Probability Distributions	Chapter 5
<b>September 24</b>	<b>Test # 2 Chapters 4 and 5</b>	
Sep 26 – Oct 8	Normal Probability Distributions 6.1 The Standard Normal Distribution 6.2 Real Applications of Normal Distributions 6.3 Sampling Distributions and Estimators 6.4 The Central Limit Theorem 6.5 Assessing Normality 6.6 Normal as Approximation to Binomial	Chapter 6
Oct 10 - 15	Estimates and Sample Sizes 7.1 Estimating a Population Proportion 7.2 Estimating a Population Mean 7.3 Estimating a Population Standard Deviation or Variance	Chapter 7
<b>October 17</b>	<b>Test # 3 Chapters 6 and</b>	

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Oct 22 – 31	Hypothesis Testing 8.1 Basic of Hypothesis Testing 8.2 Testing a Claim about a Proportion 8.3 Testing a Claim about a Mean 8.4 Testing a Claim about a Standard Deviation or Variance	Chapter 8
Nov 5 - 14	Inferences from two samples 9.1 Two Proportions 9.2 Two Means: Independent Samples 9.3 Two Dependent Samples (Matched Pairs) 9.4 Two Variances or Two Standard Deviations	Chapter 9
<b>November 19</b>	<b>Test # 4      Chapters 8 and 9</b>	
Nov 21	10.1 Correlation 10.2 Regression	Chapter 10
<b>Nov 25 -27</b>	<b>No Classes</b>	
Dec 3 - 5	Multinomial Experiments and Contingency Tables 11.1 Goodness of Fit 11.2 Contingency Tables	Chapter 11
<b>December 10</b>	<b>Final Exam      Chapters 2-11</b>	