Basic Course Information

Semester:	Spring 2019	Instructor Name:	Dr. Cassondra Lochard
Course Title & #:	Elementary Statistics	Email:	Cassondra.lochard@imperial.edu
CRN #:	20122	Webpage (optional):	Canvas
Classroom:	201	Office #:	
Class Dates:	2/11/19 - 6/7/19	Office Hours:	Tuesday: 6-7 pm Wednesday: 5:15-6:15 pm Thursday: 6-7 pm
Class Days:	Tuesdays and Thursdays	Online office hour:	Monday: 1 pm -2 pm
Class Times:	3:45 pm – 5:50 pm	Office Phone #:	760-355-
Units:	4	Emergency Contact:	760-355-6155

Course Description

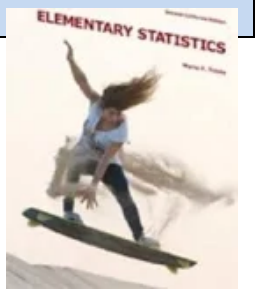
The use of probability techniques, hypothesis testing, and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square and t-tests; and supervised use and practice in the application of technology for statistical analysis including the production of graphics, finding confidence intervals, test statistics, and regression lines, as well as the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education. (CSU, UC)

Course Prerequisite(s) and/or Corequisite(s)

MATH 091 or MATH 090 with a grade of "C" or better.

Textbooks & Materials

Triola, Mario 2013. *Elementary Statistics, CA Edition* 2nd. Pearson
ISBN: 1256936448.



Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to: Demonstrate problem solving strategies by identifying an appropriate method to solve a given problem, correctly set up the problem, perform the appropriate analysis and computation, and share their interpretation of the conclusion or the outcome, using correct grammar or in an oral presentation. This outcome will be assessed through selected exercises on exams throughout the semester. (ILO1, ILO2)

Course Objectives

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

1. Distinguish among different scales of measurement and their implications.
2. Interpret data displayed in tables and graphically.
3. Apply concepts of sample space and probability.
4. Calculate measures of central tendency and variation for a given data set.
5. Identify the standard methods of obtaining data and identify advantages and disadvantages of each.
6. Calculate the mean and variance of a discrete distribution.
7. Calculate probabilities using normal and t-distributions.
8. Distinguish the difference between sample and population distributions and analyze the role played by the Central Limit Theorem.
9. Construct and interpret confidence intervals.
10. Determine and interpret levels of statistical significance including p-values.
11. Interpret the output of a technology-based statistical analysis.
12. Identify the basic concept of hypothesis testing including Type I and II errors.
13. Formulate hypothesis tests involving samples from one and two populations.
14. Select the appropriate technique for testing a hypothesis and interpret the result.
15. Use linear regression and ANOVA analysis for estimation and inference, and interpret the associated statistics.
16. Make use of Chi-square distributions to analyze counts.
17. Use appropriate statistical techniques to analyze and interpret applications based on data from disciplines including business, social sciences, psychology, life science, health science, and education.

Course Grading Based on Course Objectives

Grading:

Assignments	8%
Quizzes	12%
Exam 1	12%
Exam 2	12%
Exam 3	12%
Exam 4	12%
Exam 5	12%
Final Exam	20%
	100%

Numerical course grades are rounded to the nearest whole percentage and translate to a letter grade.

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

Course Requirements and Instructional Methods

Attendance and Participation: Attendance and participation in both in class and online activities are important to your success in this class. Students who miss class are still responsible for announcements or changes regarding the course outline, class activities, homework assignments, due dates and exam dates. Your contribution to the learning environment will help me determine boarder line grades. Four instances of the following may result in you being dropped from the course.

- Missing class
- Leaving class early
- Missing a quiz
- Missing an exam
- Failure to complete assignments

Assignments: Class work assignments are given in class and the discussion about them help you prepare for homework. I encourage you to work with your classmates to complete assignments. The homework will help you prepare for lecture, quizzes and exams. Online assignments may be submitted late for 80% of your earned points.

Quizzes: For the most part quizzes will be drawn from the homework. There will be quizzes on MyMathLab, and in class. You will need a scantron for most in-class quizzes. There will be no make up quizzes.

Exams: There will be 5 exams, each worth 17% of your total grade. You must show all work on the exam to receive credit. Scratch paper is **NOT** allowed. You may use a scientific calculator on each exam. You may **NOT** use a graphing calculator. There will be no make-up exams. All exams are to be taken closed book, and closed notes. The Final exam will be cumulative.

Attendance

- 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. 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. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and 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. **Consider:** specifics for your class/program
- **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.
- Children in the classroom: Due to college rules and state laws, only students enrolled in the class may attend; children are not allowed.

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 Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- CANVAS LMS. Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: Canvas Student Login. The Canvas Student Guides Site provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- Learning Services. There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your Campus Map for the Math Lab; Reading, Writing & Language Labs; and the Study Skills Center.
- 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. Please contact them 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.

- **Student Health Center**. A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC Student Health Center at 760-355-6128 in Room 1536 for more information.

- **Mental Health Counseling Services**. Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

Veteran's Center

The mission of the IVC Military and Veteran Success Center is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.
Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that

affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC General Catalog.

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC Library Department provides numerous Information Literacy Tutorials to assist students in this endeavor.

Anticipated Class Schedule/Calendar

*****Tentative, subject to change without prior notice*****

		Date	Discussion
Week 1	Tuesday	12-Feb	2.2 Frequency Distributions
	Thursday	14-Feb	2.3 Histograms 2.4 Graphs that Enlighten and Graphs that Deceive
Week 2	Tuesday	19-Feb	Chapter 2 Quiz 3.2 Measures of Center
	Thursday	21-Feb	3.3 Measures of Variation 3.4 Measures of Relative Standing & Boxplots
Week 3	Tuesday	26-Feb	Chapter 3 Quiz Review
	Thursday	28-Feb	Exam 1
Week 4	Tuesday	5-Mar	4.2 Basic Concepts of Probability 4.3 Addition Rule
	Thursday	7-Mar	4.4 Multiplication Rule: Basics 4.5 Multiplication Rule: Complements and Conditional Probability 4.6 Counting
Week 5	Tuesday	12-Mar	Chapter 4 Quiz 5.2 Probability Distributions 5.3 Binomial Probability Distributions
	Thursday	14-Mar	5.4 Parameters for Binomial Distributions 5.5 Poisson Probability Distributions
Week 6	Tuesday	19-Mar	Chapter 5 Quiz Review
	Thursday	21-Mar	Exam 2

Week 7	Tuesday	26-Mar	6.2 The Standard Normal Distribution 6.3 Applications of Normal Distributions
	Thursday	28-Mar	6.4 Sampling Distributions and Estimators 6.5 Central Limit Theorem 6.6 Assessing Normality
Week 8	Tuesday	2-Apr	6.7 Normal as Approximation to Binomial 7.2 Estimating a Population Proportion 7.3 Estimating Population Mean
	Thursday	4-Apr	Chapter 6 Quiz 7.4 Estimating Population Standard Deviation or Variance
Week 9	Tuesday	9-Apr	Chapter 7 Quiz Review
	Thursday	11-Apr	Exam 3
Spring Break	Tuesday	16-Apr	
	Thursday	18-Apr	
Week 10	Tuesday	23-Apr	8.2 Basics of Hypothesis Testing
	Thursday	25-Apr	8.3 Testing a Claim About a Proportion 8.4 Testing a Claim About a Mean
Week 11	Tuesday	30-Apr	8.5 Testing a Claim About a Standard Deviation or Variance 9.2 Two Proportions
	Thursday	2-May	Chapter 8 Quiz 9.3 Two Means: Independent Samples
Week 12	Tuesday	7-May	9.4 Two Dependent Samples (Matched Pairs) 9.5 Two Variances or Standard Deviations
	Thursday	9-May	Chapter 9 Quiz Review
Week 13	Tuesday	14-May	Exam 4
	Thursday	16-May	10.2 Correlation 10.3 Regression
Week 14	Tuesday	21-May	Chapter 10 Quiz 11.2 Goodness-of-Fit
	Thursday	23-May	11.3 Contingency Tables
Week 15	Tuesday	28-May	Chapter 11 Quiz Review
	Thursday	30-May	Exam 5
Week 16	Tuesday	4-Jun	Review
	Thursday	6-Jun	Final Exam