IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2024**	Instructor Name:	**Humberto Pena**
Course Title & #:	**Elementary Statistics (Math 119)**	Email:	**humberto.pena@imperial.edu**
CRN #:	**10817**	Webpage (optional):	**N/A**
Classroom:	**3112**	Office #:	**N/A**
Class Dates:	**Aug 12 – Dec 07**	Office Hours:	**Fridays via zoom, 1:00 – 2:00 PM**
Class Days:	**M/W**	Office Phone #:	**N/A**
Class Times:	**10:15 AM – 12:45 PM**	Emergency Contact:	**email**
Units:	**4**	Class Format/Modality:	**In person**

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; Probability Theory, such as counting principles, conditional probability and the Poisson distribution. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education. (C-ID: MATH 110) (CSU, UC credit limited. See a counselor.)

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

Successful completion of Intermediate Algebra or appropriate placement as defined by AB705.

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

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.

Textbooks & Other Resources or Links

Author(s): Triola, Mario. Elementary Statistics Using Excel 7th Edition Textbook ISBN-13: 9780136937432

We'll be using MyLab & Mastering Pearson Lab for homework assignments. This is a necessary component of the class. Instructions on how to register for the course will be shown on the first day of class. You can also check the instructions under the 'Files' tab in Canvas.

StatCrunch: Included in your Pearson subscription is access to the StatCrunch statistical software. We will learn how to use it and interpret the output (mostly when we start covering hypothesis testing).

Calculator: It is HIGHLY RECOMMENDED that you bring a calculator to class, in particular, a graphing calculator (TI-83, TI-84). While it is strictly not necessary, it will make your life a lot easier. You can rent out graphing calculators at the Cashier's Window on campus for a $10 fee.

Course Requirements and Instructional Methods

The classroom: Classroom time will consist of lecture and select practice exercises. I highly encourage you to participate in class and ask questions, no matter how trivial it seems. The course will follow a particular pace to make sure we cover everything in class, but I am more than willing to slow down and re-explain or re-do an example if asked to. All three exams and the final will be taken in person and will be graded no later than two weeks after the exam has been completed.

Outside the classroom: You will be expected to complete your homework and quizzes online outside of class time. It is your responsibility to check the due dates for homework and quizzes. You will also be expected to study accordingly for your exams. If you feel like you could use some extra help, I invite you to attend my office hours via zoom on Fridays OR go to the tutoring services offered by Imperial Valley College.

Course Grading Based on Course Objectives

The overall course will consist of 10 homework assignments, 10 Quizzes, three exams, and one final exam, which will be weighted as follows:

Homework	**20%**
Quizzes	**10%**
Exams	**45% (3 exams, 15% each)**
Final Exam	**25%**

Once everything has been graded, the grade distribution will be as follows:

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

If for some reason you find yourself unable to complete a quiz or homework assignment by the due date, please contact me ASAP so that we may discuss the situation on an individual basis.

Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

Course Policies

Attendance: All students are expected to attend every class session. Incidentally, you must attend the first meeting of the course. For those who are enrolled but not present on the first day of class, as per the college's policy, will be dropped from the class. Constant absences are also grounds for dropping you from the course. If you have an emergency, please email me or let me know somehow to take it into consideration. ***Long story short, come to class!***

Academic honesty: You are expected to show your own work in both homework, quizzes, and exams. Cheating is not tolerated by Imperial Valley College under any circumstance. Anyone caught cheating will receive a zero on the assignment/exam and will be reported to the Campus Disciplinary Officer who may file an incident report. Multiple instances of cheating will result in a failing grade (F) and/or disciplinary action. Please refer to the General 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. ***Another long story short, don't cheat!***

Classroom behavior: You are expected to respect everyone around you, including your professor(s), fellow peers, and the classroom environment. Instances of disruptive behavior will result in me asking you to leave the classroom for the day. Multiple instances will result in filing a report with the Campus Disciplinary Officer.

IMPERIAL VALLEY COLLEGE

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit http://www.imperial.edu/studentresources or click the heart icon in Canvas.

Anticipated Class Schedule/Calendar

Week	Topic	Important Dates
Week 1 August 12 - 16	Syllabus & Chapter 1	
Week 2 August 19 - 23	Chapter 2	
Week 3 Aug 26 - 30	Chapter 3	
Week 4 Sep 02 - 06	Chapter 4	No class on 09/02
Week 5 Sep 09 - 13	Review, Exam 1	Exam 1 on 09/11 Homework for chapters 1 – 4 due on 09/10
Week 6 Sep 16 - 20	Chapter 5	
Week 7 Sep 23 - 27	Chapter 6	
Week 8 Sep 30 - Oct 04	Chapter 7	
Week 9 Oct 07 - 11	Review, Exam 2	Exam 2 on 10/09 Homework for chapters 5 – 7 due on 10/08
Week 10 Oct 14 - 18	Chapter 8	
Week 11 Oct 21 - 25	Chapter 9	
Week 12 Oct 28 - Nov 01	Chapter 10	
Week 13 Nov 04 - 08	Review	
Week 14 Nov 11 - 15	Exam 3	No class on 11/11 Exam 3 on 11/13 Homework for chapters 8 – 10 due on 11/12
Week 15 Nov 18 - 22	Cumulative Review	
Week 16 Nov 25 - 29	THANKSGIVING BREAK (No class)	No class from Nov 25 – 29
Week 17 Dec 02 - 07	Final Exam	Final exam on 12/02

*****Subject to change without prior notice*****