IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2023**	Instructor Name:	**Jill Nelipovich**
Course Title & #:	**Math 119**	Email:	**Jill.nelipovich@imperial.edu**
CRN #:	**11137**	Webpage (optional):	**Canvas**
Classroom:	**206**	Office #:	**2768**
Class Dates:	**8/14/23 – 12/09/23**	Office Hours:	**MW: 7:00 – 7:30 Rm 2722** **MW: 1:00 – 1:30 Rm 2768** **TR: 8:00 – 9:30 Zoom** **TR: 3:45 – 4:00 Centi-C** **6:40 – 7:00 Centi-C**
Class Days:	**MW**	Office Phone #:	**760-355-6297**
Class Times:	3:45 – 6:15	Emergency Contact:	**Silvia Murray** **760-355-6201**
Units:	3.5 Lecture, 1.5 Lab	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:

1. 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.

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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. Make use of Chi-square distributions to analyze counts.
13. Identify the basic concept of hypothesis testing including Type I and II errors.
14. Formulate hypothesis tests involving samples from one and two populations.
15. Select the appropriate technique for testing a hypothesis and interpret the result.
16. Use linear regression and ANOVA analysis for estimation and inference, and interpret the associated statistics.
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.
18. Apply concepts of probability theory, such as counting principles, conditional probability and the Poisson distribution.

Textbooks & Other Resources or Links

Triola, Mario. 2019. *Elementary Statistics using excel*. 7th Pearson. ISBN (rental): 9780136921721

Course Requirements and Instructional Methods9780357022269

1. Class participation: Be present in mind, body and spirit! You need to participate to succeed. Calculus is not easy. Your algebra must be strong! Your trig – yep! You need that knowledge too (especially in Calc 2). Do not spend time on your cell phone. Time on your cell phone is time away from calculus.
2. Love to learn! Embrace the productive struggle. Take joy in not knowing how to do a problem and working it out with your peers. Learn a little every day and refrain from learning a lot in one day. You need time to digest the material.
3. Exams – Four exams! Study a little bit every day.
4. Final Exam – you get to share with me what you learned!
5. No Make-up tests. If you miss an exam, the week before finals, EVERY student will have the opportunity to get some points back on their lowest test.

Course Grading Based on Course Objectives

Quizzes: In class and on Canvas……..5%

Exams: (three)……60%

Projects……..10%

Final Exam……..25%

Updated 6/2023

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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.

a. DO NOT CHEAT.
b. If you use alternative sources for your homework, I can copy Shakespear as well! It doesn't mean I understand it. Writing down gibberish does nothing for your learning and you embracing the productive struggle. Use alternative sources as "checking" mechanisms, not HOW you do it. Those sources will NOT be available on any test.

Course Policies

1. Have fun
2. Don't cheat
3. 10 hours per week on the course outside of class is about 1 hour 30 minutes daily. Spend the time now rather than playing catch up in future courses.

Other Course Information

1. MESA program is starting soon! Stay tuned!

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.

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Anticipated Class Schedule/Calendar

[Provide a tentative overview of the readings, assignments, tests, and/or other activities for the duration of the course. A table format as in the example below may be used for this purpose.]

Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 August 14 - 18	Introduction, Chapter 1 Introduction to Statistics	
Week 2 August 21 - 25	Chapter 2 Exploring Data with Tables and Graphs	
Week 3 August 28–Sept 1	Chapter 3 Describing, Exploring and Comparing Data	
Week 4 September 4 - 8	No Class Sept 4 Chapter 10 – Correlation and Regression	
Week 5 Sept 11 - 15	Chapter 10 – Correlation and Regression Review Exam 1	
Week 6 Sept 18 - 22	Exam 1 Chapter 4 - Probability	
Week 7 Sept 25 - 29	Chapter 4 – Probability, Discrete Probability Distribution Chapter 5 – Discrete Probability Distribution	
Week 8 Oct. 2 - 6	Chapter 5 – Discrete Probability Function, Normal Prob. Dist Chapter 6 – Normal Probability Distribution	
Week 9 Oct. 9 - 13	Chapter 7 – Normal Probability Distributions Review	
Week 10 Oct. 16 - 20	Exam 2 Chapter 8 – Estimating Parameters and Determine Sample Size	
Week 11 Oct. 23 - 27	Chapter 9 – Hypothesis testing	
Week 12 Oct. 30 – Nov 3	Chapter 11 – Inferences from Two Samples	
Week 13 Nov 6 - 10	Chapter 11 – Inferences from Two Samples	
Week 14 Nov 13 - 17	Review Exam 3	
Holiday Nov 20 - 24		
Week 15 Nov 27 – Dec 1	Review/project Review/project	
Week 16 Dec 4 - 8	Final Exam	

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