Basic Course Information

Semester:	**Spring 2023**	Instructor Name:	**Jeff Burt**
Course Title & #:	**Math 119 - Statistics**	Email:	**jeff.burt@imperial.edu**
CRN #:	**10574**	Webpage (optional):	**NA**
Classroom:	**2728**	Office #:	**2765**
Class Dates:	**8/14/23-12/9/23**	Office Hours:	**TBD**
Class Days:	**T/TH**	Office Phone #:	**760-355-6489**
Class Times:	1:00am-3:35pm	Emergency Contact:	**email**
Units:	4	Class Format:	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. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education. (C-ID MATH 110)

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

Appropriate placement as defined by AB705 or,
MATH 098 or MATH 091 with a grade of "C" or better.

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.

Textbooks & Other Resources or Links

You will need the textbook and access to Microsoft excel, (Excel is included for free with your student account) A USB drive is also required. A graphing calculator can also be very helpful, and can be rented from the school for a small fee.

The textbook is Elementary Statistics using Excel by Mario Triola 6th edition. ISBN 9780134506623

Course Requirements and Instructional Methods

The goal of this course is for you to gain the necessary skills and knowledge to do well, and improve your mathematical abilities, so you are able to succeed in future courses and attain your educational goals. My responsibility is to help you in any way I can to accomplish these goals, however it is your responsibility to be committed to your own success and keep up with the pace of the class. To do so you need to complete assignments on time and please ask questions when you have them.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Rules:
1) Late work is not accepted. If you are going to be gone, contact me **before** the absence to make arraignments.
2) There are **no** make-up exams.
3) It is your responsibility to drop or withdraw the class. Failure to do so will result in a regular grade
(most probably an F).
4) Regular attendance is recommended and expected. The instructor can drop you from the class if you have more than the allowed number of absences.
5) **You need to ask questions** whenever you have them. If not in class, please use office hours, email me, go to tutoring, Google it, YouTube it, etc.
6) It is your responsibility to make up the work you missed if you are absent. I highly recommend finding someone else to copy notes and material from that were covered in your absence.

Course Grading Based on Course Objectives

There will be 4 in class exams, worth 100 points each. The final is comprehensive and is also worth 150 points. There are **no make-ups** for the exams or final. Plan to be available for the exam dates in the schedule, but also note that those dates can change, so make sure you are paying attention and staying up to date. Any missed exam will result in the grade of a '0'.

The homework and quizzes will be combined and their average score will also be worth 100 points. That means there are 650 points in the class. Your percentage and letter grade are based on how many of these 650 points you earn.

Grading: You need **at least 455** combined points for a 'C' grade. It is broken down as follows

Homework & Quizzes	100 points
Exams	400 points
Final	150 points
Total	650 points

So that means every 65 points is a letter grade. 650-585 = A; 584-520 = B; 519- 455 = C, 445 – 390 = D, 389 – 0 = F

Attendance, class participation and a subjective instructor's interpretation of work may be used in assigning a final grade to borderline cases.

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

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

•   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 plagiarizing 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, and continue with an appropriate course of action. Repeated acts of cheating may result in an F in the course 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..]

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 1 8/14-8/18	1.1, 1.2, 1.3,
Week 2 8/21-8/25	1.4, 2.2, 2.3,
Week 3 8/28-9/1	2.4, 3.2,3.3, 3.4,
Week 4 9/4-9/8	**Exam 1,** 4.2, 4.3
Week 5 9/11-9/15	4.4, 4.5, 4.6
Week 6 9/18-9/22	5.4, 5.2
Week 7 9/25-9/29	5.3, 6.2, 6.3,
Week 8 10/2-10/6	**Exam 2,** 6.4
Week 9 10/9-10/13	6.5, 6.6, 7.2
Week 10 10/16-10/20	7.3, 7.4,
Week 11 10/23-10/27	8.2, 8.3, 8.4
Week 12 10/30-11/3	8.5, **Exam 3**
Week 13 11/6-11/10	9.2, 9.3, 9.4
Week 14 11/13-11/17	10.2, 10.3, 11.3,
Week 15 11/20-11/24	Thanksgiving Break
Week 16	12.2 **Exam 4**

11/27-12/1	
Week 17 12/4-12/8	Review, **Final Exam**

Subject to change without prior notice