

### Basic Course Information

Semester:	<b>Spring 2021</b>	Instructor Name:	<b>Zhong Wen Hu</b>
Course Title & #:	<b>Math 119</b>	Email:	<b>Zhong.hu@imperial.edu</b>
CRN #:	<b>21565</b>	Webpage (optional):	<b>Imperial.instructure.com</b>
Classroom:	<b>N/A</b>	Office #:	<b>2760.1</b>
Class Dates:	<b>2/16/2021 – 6/11/2021</b>	Office Hours:	<b>MW: 10 am to 11 am TR: 1 pm to 2 pm</b>
Class Days:	<b>TR</b>	Office Phone #:	<b>760-355-6355</b>
Class Times:	10:15 am – 12:20 pm	Emergency Contact:	<b>Email me</b>
Units:	4	Class Format:	Online-Zoom

### 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)

### 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: 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. (ILO1, 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

The student has three options:

1. Triola, Mario (2013). *Elementary Statistics (Second California Edition)*. Pearson. ISBN10: 1- 256-93644-8. ISBN 13: 1256989851
2. Michael Sullivan, III. *Fundamentals of Statistics: Informed Decisions Using Data (5<sup>th</sup> Edition)*. Pearson.
3. You can view the ebook online below:

[http://cnx.org/contents/MBiUQmmY@18.11:2T34\\_25K@11/Introduction](http://cnx.org/contents/MBiUQmmY@18.11:2T34_25K@11/Introduction)

Download PDF: The book will also be available as a PDF download (in Canvas).

**Calculator: A TI-83 plus or TI-84 plus is recommended this course. You may rent a TI-83 plus from the Math Lab for \$10 for the summer. I will keep you update how to rent a graphing calculator at the Math Lab.**

## Course Requirements and Instructional Methods

### Homework

Homework will be posted on Canvas.

### Quiz/Pop-quiz/Group Work/Discussion

Quizzes will be posted on Canvas.

### Tests

There will be four tests. If you are going to miss a test, please contact me as soon as possible so I can help you stay as current and provide as much support as possible. The purpose of these tests is to check your understanding of the concepts covered in the course.

### Final Exam

At the end of the semester, a COMPREHENSIVE/CUMULATIVE Final Exam will be given. If you miss the final, it will be recorded as a zero.

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 Grading Based on Course Objectives

### Grading Policy

Quiz	10%
Homework	10%
Tests	60%
Final Exam	20%

---

Total	100%
-------	------

### Grading scale for determining the final grade

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

### Course Policies

- [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.

What does it mean to "attend" an online class?

Attendance is critical to student success and for IVC to use federal aid funds. Acceptable indications of attendance are:

- Student submission of an academic assignment
- Student submission of an exam
- Student participation in an instructor-led Zoom conference
- Documented student interaction with class postings, such as an interactive tutorial or computer-assisted instruction via modules



- A posting by the student showing the student's participation in an assignment created by the instructor
- A posting by the student in a discussion forum showing the student's participation in an online discussion about academic matters
- An email from the student or other documentation showing that the student has initiated contact with a faculty member to ask a question about an academic subject studied in the course.

Logging onto Canvas alone is NOT adequate to demonstrate academic attendance by the student.

### Other Course Information

Last day to add the class: Saturday 02/27/2021

Last day to withdraw from the class with a "W": Saturday 05/15/2021

### 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
1	Course Syllabus Chapter 1: Introduction to Statistics
2	Chapter 2: Summarizing Data in Tables and Graphs Chapter 3: Numerically Summarizing Data
3	Chapter 4: Describing the Relation between Two Variable
4	Review for Test 1 and Test 1
5	Chapter 5: Probability
6	Chapter 6: Discrete Probability Distributions
7	Chapter 7: The Normal Probability Distribution
8	No Classes
9	Review for Test 2 and Test 2
10	Chapter 8: Sampling Distribution
11	Chapter 9: Estimating the Value of a Parameter



<b>12</b>	<b>Chapter 10: Hypothesis Tests Regarding a Parameter</b>
<b>13</b>	<b>Review for Test 3 and Test 3</b>
<b>14</b>	<b>Chapter 11: Inferences on Two Samples Chapter 12: Additional Inferential Techniques</b>
<b>15</b>	<b>Review for Test 4 and Test 4</b>
<b>16</b>	<b>Fianl Exam</b>

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