

Math 140 Honors Class Schedule

Spring 2020 / Teachout

Weeks 1-6 (Face-to-face) – Credit for section problems given during class. Exam given during class.

Date	Schedule	Homework
10-Feb	1A & 1B	Finish Problems Section 1A & 1B, Journal 1: Write paragraph summarizing various ways to collect data.
12-Feb	1C & 1D	Finish Problems Section 1C & 1D, Journal 2: Write paragraph summarizing the various types of bias.
17-Feb	Holiday	
	Go over Project 1 / 1E	
19-Feb	1 / 1E	Finish Problems Section 1E
24-Feb	1F	Finish Problems Section 1F, Journal 3: Write paragraph summarizing how to analyze a normal data set.
26-Feb	1G	Finish Problems Section 1G, Journal 4: Write paragraph summarizing how to analyze a non-normal data set.
2-Mar	Ch 1 Review	Finish Problems Ch 1 Review, Study for Exam
4-Mar	Exam Ch 1	Honors Assignment 1: Read and summarize the following article about customer service statistics. (https://www.customerthermometer.com/customer-service/customer-service-and-satisfaction-statistics-for-2019/)
9-Mar	2A & 2B	Finish Problems Section 2A & 2B, Journal 5: Write a paragraph on sampling variability and how sampling distributions teach us about sampling variability.
11-Mar	2C & 2D	Finish project part 1, Finish Problems Section 2C & 2D, Journal 6: Write a paragraph explaining the central limit theorem.
16, 18-Mar	Classes Cancelled	Classes Cancelled due to Corona Virus. Class will continue March 23 online only. Email Project 1 to matt.teachout@canyons.edu

Week 7 – Week 8 (Online)

Students need to email Exam answers, section problems, and other assignments to matt.teachout@gmail.com to receive credit. Students may email questions to matt.teachout@gmail.com or request a video be posted explaining a specific problem. Videos will be posted the Sunday before the start of the week. For example, the videos lectures for week 7 will be posted by March 22nd.

Week 7 (March 23rd – 29th)

Work on the following during the whole week. Do not wait until the last minute. Email the assigned section problems and the honors writing assignments to matt.teachout@gmail.com at any time during the week. The deadline to turn in week 7 assignments is Sunday March 29th at 12:00 pm (noon) pacific time. All week 7 assignments must be completed and submitted by then.

Submit the following assignments from week 5 if you have not already.

- Project 1: Email your data and bias essay to matt.teachout@gmail.com.
- Famous Statistician Project Report: Email your report to matt.teachout@gmail.com.
- Journal 5: Explain Sampling Variability and Sampling Distributions. Email Journal 5 to matt.teachout@gmail.com.
- Journal 6: Summarize the Central Limit Theorem. Email Journal 6 to matt.teachout@gmail.com.

Week 7 Assignments (Chapter 2 continued)

- Watch both parts of the “Intro to One-population Confidence Intervals” video and take notes. (Notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)
- Watch both parts of the “critical values for confidence intervals with StatKey” video and take notes. (The notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)
- Watch both parts of the “One-population proportion Confidence Intervals” video and take notes. (Notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)
- Watch the “[One-population Mean Confidence Interval](#)” video and take notes. (Notes will not be collected.) Click on the title to access the video.
- Watch the following video on bootstrapping and take notes. (Notes will not be collected.) (<http://www.lock5stat.com/videos/BootstrapIntro.mp4>).
- Watch both parts of the “One-population confidence intervals with software (Statcato and StatKey)” video and take notes. (Notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)
- **Do Section 2E Problems#1-7,12-15, 20,21,26,27 and submit answers to matt.teachout@gmail.com.**
- Watch both parts of the “Intro to Two-population Confidence Intervals” video and take notes. (Notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)
- Watch both parts of the “Two-population Confidence Intervals Formulas and Assumptions” video and take notes. (Notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)

- Watch all three parts of the “Two-population confidence intervals with software (Statcato and StatKey)” video and take notes. (Notes will not be collected.) Video Links: [Part 1](#), [Part 2](#), [Part 3](#)
- **Do Section 2F Problems #1-6,14,15,18,19 and submit answers to matt.teachout@gmail.com.**
- **Honors Assignment 2: Read and summarize the following article on using confidence intervals to investigate smoking and pregnancy. Submit summary paragraph to matt.teachout@gmail.com. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6472671/>**

Week 8 (March 30th – April 5th)

Work on the following during the whole week. Do not wait until the last minute. Watch the lecture videos and email the Exam#2 essay and the assigned section problems to matt.teacout@gmail.com at any time during the week. The deadline to turn in the Exam#2 essay and all week 8 assignments is Sunday April 5th at 12:00 pm (noon) pacific time.

- **Exam 2: Write a two-page essay (single spaced) explaining the following key ideas in chapter 2. It must be in your own words and not copied from the book or another student. Email the essay to matt.teachout@gmail.com by Sunday April 5th at 12:00 pm (noon) pacific time.**
 1. Explain how a sampling distribution is created and what the mean (center) and standard deviation of the sampling distribution can tell us.
 2. Explain the central limit theorem and why it is important for a sampling distribution to be normal.
 3. Explain margin of error and a confidence interval. How do we use the sample statistic and the margin of error to calculate the confidence interval.
 4. Explain how to use critical value (Z or T) scores and the standard error to calculate margin of error.
 5. As confidence levels decrease, what happens to the margin of error and the confidence interval?
 6. As the sample size decreases, what happens to the margin of error and the confidence interval.
 7. Explain how to interpret two-population confidence intervals that are either (+,+), (-,-) or (-,+).
- Watch both parts of the “Null and Alternative Hypothesis” video and take notes. (The notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)
- **Do Section 3A Problems#1-20 and submit answers to matt.teachout@gmail.com.**
- Watch both parts of the “Intro to Test Statistics” video and take notes. (The notes will not be collected.) Video Links: [Part 1](#), [Part 2](#)
- Watch the “Test Statistics and Critical Values with Software (Statcato and StatKey)” video and take notes. (The notes will not be collected.) [Video Link](#)
- **Do Section 3B Problems#1-10,21,22,24,25,31,35 and submit answers to matt.teachout@gmail.com.**

SPRING BREAK (APRIL 6TH – APRIL 12TH)

Week 9 (April 13th – April 19th)

Work on the following during the whole week. Do not wait until the last minute. Watch the lecture videos and email the assigned section problems to matt.teacout@gmail.com at any time during the week. The deadline to turn in week 9 assignments is Sunday April 19th at 12:00 pm (noon) pacific time.

- Watch both parts of the “Intro to P-value” video and take notes. (The notes will not be collected.) Video links: [Part 1](#), [Part 2](#)
- Watch both parts of the “P-value Calculations with Software” video and take notes. (The notes will not be collected.) Video links: [Part 1](#), [Part 2](#)
- **Do Section 3C Problems#20-34,38-43 and submit answers to matt.teachout@gmail.com.**
- Watch both parts of the “Hypothesis Test Conclusions” video and take notes. (The notes will not be collected.) Video links: [Part 1](#), [Part 2](#)
- **Do Section 3D Problems#6-9,31-37 and submit answers to matt.teachout@gmail.com.**
- Watch both parts of the “Type 1 and Type 2 Errors” video and take notes. (The notes will not be collected.) Video links: [Part 1](#), [Part 2](#)
- **Do Section 3E Problems#1-14 and submit answers to matt.teachout@gmail.com.**
- **Honors Assignment #3: Read and summarize the following article on the use of P-values in scientific research ([P-value article link](#)). Submit the essay to matt.teachout@gmail.com.**

