COC Math 140X In-Person 16-week TTh Homework Schedule
Project-Based Curriculum / Teachout Textbook / Spring 2024 / Updated 4-25-24

Date	Schedule	Assignments
Feb 6	Syllabus Schedule Section 1A	Read syllabus and schedule. Let Teachout know project partner and choice of project questions. Lecture on types of data. Textbook Problems 1A#1,2,3. Finish Stat Support Activity#1 – Excel Basics (copy,paste, highlighting and widening columns)
Feb 8	Section 1B	Start collecting data for project#1. Work on project#1. Lecture on methods of collecting data. Textbook Problems 1B#1-15 all. Affective Domain Activity#1 Growth Mindset. Excel Activity#2 typing project data, creating "Other" category and doing a "Custom Sort".
Feb 13	Section 1C	Collect data for project. Work on project#1. Lecture on types of bias in data. Textbook Problems 1C#1-11 all. Affective Domain Activity#2 Grit. Intro to StatKey Activity.
Feb 15	Section 1D	Work on project#1. Lecture on Experimental Design. Ruler Experiment Activity. Textbook Problems 1D#1-6,17-27.
Feb 20	Section 1E	Work on project#1. Stat Support Rounding Activity. Proportion % Conversion Lecture. Estimating Amounts Lecture. Calculating Proportions and Percent of Increase Lecture. Putting Categorical Data into StatKey Lecture. Intro to Pie charts lecture. Textbook Problems 1E#1-11,13-14,16,18-22
Feb 22	Sections 1E & 1F	**Finish Project#1!** Binomial Probability Lecture. Textbook Problems 1E#25,26. Stat Support Activity Normal Shape. Stat Support Activity: Mean Average. Stat Support Standard Deviation Activity.
Feb 27	Section 1F	**Project#1 Due Today!** Start project#2. Normal Data Analysis Lecture. Z-score Lecture. Empirical Rule Lecture. Normal Probabilities Lecture. Textbook Problems 1F#1,2,6,7,9,10,11,14,15,19,21,22,24,25
Feb 29	Section 1G	Work on project#2. Shape Activity. Median Activity. Quartiles & IQR Activity. Box-Plot & Outliers Activity.
Mar 5	Sections 1G & 2A	Work on project#2. Skewed & Non-normal Data Analysis Lecture. Textbook Problems 1G#2,3,4,7 Other Quantitative Statistics Activity. Sections 2A Statistics & Parameters Lecture, Textbook problems 2A#2-25 all
Mar 7	Sections 2B & 2C	Work on project#2. Sampling Distribution Coin Activity, Sampling Distribution Coffee Activity, Sampling Distribution & Central Limit Theorem Lecture, Textbook problems 2B#1-3,5-8,19,20 & 2C#1-7,9,10,17,18.
Mar 12	Section 2D	Work on project#2. Confidence Interval Calculation & Sentence Lecture, Textbook Problems 2D#1-10, Finding Statistic and Margin of Error Lecture, Textbook Problems 2D#11-20, Understanding "Confidence" Activity (2D#21-32). COC Shelter in Place Drill.
Mar 14	Section 2E	Work on project#2. Critical Value Z-scores StatKey Activity. Population Proportion Confidence Interval Calculations and Conditions. Textbook Problems 2E#1,4-11. Critical Value T-scores StatKey Activity. Population Mean Average Confidence Interval Calculations and Conditions. Textbook Problems 2E#2,12-19.

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Mar 19	Sections 2E & 2F	**Finish project#2!** One-Population Mean and Proportion Bootstrap Confidence Interval Lecture. Textbook Problems 2E#3,20-27. Stat Support Difference Activity. Two-Population Confidence Interval Interpretations. Textbook Problems 2F#4-12
Mar 21	Section 2F	**Project#2 Due Today!** Start Project#3. Lecture & Stat Support Activity: Calculations for two-population proportion confidence interval. Stat Support Activity: Two-population degrees of freedom and critical value T-scores. Lecture & Stat Support Activity: Calculations for Two-population mean confidence interval from independent groups. Lecture: Matched Pair Confidence Interval Calculations Affective Domain Activity#4 Stress
Mar 26	Section 2F	Work on project#3. Stat Support Activity: Calculations for Matched Pair mean confidence intervals. Lecture: Two-population confidence intervals conditions and bootstraps. Textbook problems 2F#13-20 Go over Project#3
Mar 28	Section 3A & 3B	Work on project#3. Stat Support Activity: Inequalities & Population Parameters. Section 3A Null & Alternative Hypothesis Lecture. Finish textbook problems 3A#1-20 all. Section 3B Intro to Test Statistic (Tail Rule) Lecture. Finish textbook problems 3B#1-20 all.
Apr 2 & 4	**Spring Break**	Work on project#3. Catch up on make-up work.
Apr 9	Section 3B & 3C	Work on project#3. Stat Support Activity: Significance Levels *(Also includes drawing distributions and labeling critical values & test statistics)* Section 3B Lecture: Using StatKey and Significance level to Calculate Critical Values. Finish problems 3B#21-29 all. Section 3B Lecture: One-Pop. Test Stat Sentences and Calculations. Finish problems 3B#30-35 all. Section 3C Stat Support Activity: Scientific Notation *(Also includes Scientific Notation to % conversions.)*
Apr 11	Section 3C	Work on project#3. Lecture: 3C Introduction to P-value. Finish problems 3C#1-32 all. Lecture: P-value in Hypothesis Test Example 3C#33 Finish problems 3C#33-37 all. Lecture: StatKey Theoretical Distribution P-value Calculations. Finish problems 3C#38-45. Stat Support Activity: Drawing P-value, Significance Level, Test Statistic and Critical Value on same distribution (#1-10)
Apr 16	Sections 3C & 3D	**Finish project#3!** Affective Domain Activity: Mistakes Lecture: Section 3D Hypothesis Test Conclusions. Stat Support Conclusion Activity#1-16. Conclusion with Scientific Study Example 3D#17. Finish textbook problems 3D#18-23. Stat Support StatKey Activity: Randomized Simulation.

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Apr 18	Sections 3A-3D Review & 3E	**Project#3 Due Today!** Ch 3 Review Sheet#3-6,8-11 3E Lecture: Type 1 and Type 2 Errors. Finish textbook problems 3E#1-15.
Apr 23	Section 3F	**Class Cancelled due to instructor illness.** • Go to the "Statistics" page on www.matt-teachout.org Watch all 3 of the online lectures on "Section 3F One-Population Proportion Hypothesis Test". Take hand-written notes on all of the video lectures. • Finish problems 3F#1,4-7. • Watch all 3 of the online lectures on "Section 3F One-Population Mean Hypothesis Test". Take hand-written notes on all of the video lectures. • Finish problems 3F#2,8-11. • Go to the "Pre-Stat" page on www.matt-teachout.org and open the Stat Support Activity: One-Population Test Statistics. Read notes and do problems 1-6. • Watch all 3 of the online lectures on "Section 3F One-Population Mean and Proportion Hypothesis Tests with StatKey and Statcato". Take hand-written notes on all of the video lectures. • Do textbook problems 3F#12,13,18,23 **Note: All nine of Section 3F Lecture Video Notes, Section 3F Textbook Problems assigned, and Activty#1-6 will be collected.**
Apr 25	Section 4B	• Lecture Section 4B: Intro to ANOVA, Ho, Ha, Conditions • Stat Support Activity: ANOVA and F-test statistic Calculations#1-3 • Finish problems 4B#1-4,21-24 • Lecture and Problems Section 4B: Traditional ANOVA test example. Finish problems 4B#25,26 • Lecture and Problems Section 4B: Randomization ANOVA test example. Finish problems 4B#29,32 • HW: Finish Activity Problems, Finish 4B problems, and start on project#4.
Apr 30	Section 4C	Work on project#4. Finish problems 4C.
May 2	Section 4A	Work on project#4. Finish problems 4A
May 7	Section 4D	Work on project#4. Finish problems 4D. Finish and turn in make-up work.
May 9	Sections 4E	Work on project#4. Finish problems 4E. Finish and turn in make-up work.
May 14	Section 4F	Work on project#4. Finish problems 4F. Finish and turn in make-up work.
May 16	Section 4G	**Finish Project#4!** Finish problems 4G. Finish and turn in make-up work.
May 21	Section 4H	**Project#4 Due Today!** Finish problems 4H. Finish and turn in make-up work.

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May 23	Final Review #1	Finish problems Ch1 Review Sheet #1,2bdgh,4,5,6,7abc,8,9,12abc,14-18 Ch2 Review Sheet#1(n,π,p̂,μ,x̄),10abefgh,12 **Study for Final Exam!** Finish and turn in make-up work.
May 28	Final Review #2	Ch3 Review Sheet#3,4,5,8,9,10,11 Ch4 Review Sheet#1,3,6,7,8,9,10,11,12,13,14 **Study for Final Exam!** Finish and turn in make-up work.
May 30	**Cumulative Final Exam**	**Last day to turn in make-up work!!** Math 140 is over! Have a great Summer!