

COC Math 140X In-Person 16-week MW Homework Schedule / Fall 2024
Project-Based Curriculum / Teachout Textbook / Last Updated September 10th

Date	Schedule	Assignments
Aug 19	Syllabus Schedule Section 1A Excel Basics	<ul style="list-style-type: none"> • Syllabus and HW schedule Lecture. • Finish Stat Support Activity#1 – Excel Basics (copy,paste, highlighting and widening columns) • Section 1A Lecture on two types of data. • Textbook Problems 1A#1,2,3. • Go over project#1 Topics. Let Teachout know choice of project topics.
Aug 21	Section 1B & 1C	<ul style="list-style-type: none"> • Section 1B Lecture on methods of collecting data. • Textbook Problems 1B#1-15 all. • Section 1C Lecture on types of bias in data. • Textbook Problems 1C#1-11 all. • Start collecting data and work on project#1.
Aug 26	Section 1D	<ul style="list-style-type: none"> • Collect data for project. Work on project#1. • Lecture on Experimental Design. • Ruler Experiment Activity. • Textbook Problems 1D#1-6,17-27. • Excel Activity#2 typing project data, creating “Other” category and doing a “Custom Sort”.
Aug 28	Section 1E (part 1)	<ul style="list-style-type: none"> • Work on project#1. • Stat Support Activity: Rounding • Stat Support Activity: %, Proportions, Scientific Notation • Lecture: Estimating Amounts • Textbook Problems 1E#3-10 • Calculating Proportions and Percent of Increase Lecture. • Textbook Problems 1E#11,13,14,15 • 9/1/24 is Last Day to Drop with Refund and without a “W”.
Sept 2	Holiday	No Class Today. Happy Labor Day!
Sept 4	Section 1E (part 2)	<ul style="list-style-type: none"> • Work on project#1. • Putting Categorical Data into StatKey Lecture. • Stat Support Activity: Intro to StatKey • Intro to categorical graphs lecture. • Stat Support Activity: Categorical Graphs • Binomial Probability Lecture. • Textbook Problems 1E#25,26,27,28,29
Sept 9	Sections 1F (part 1)	<ul style="list-style-type: none"> • Finish Project#1! • Stat Support Activity: Normally Distributed. • Stat Support Activity: Quantitative Shapes • Stat Support Activity: Mean Average. • Stat Support Activity: Standard Deviation. • Z-score Lecture.
Sept 11	Section 1F (part 2)	<ul style="list-style-type: none"> • Project#1 Due Today! • Start project#2. • Z-score Textbook Problems 1F#9-18 all • Normal Data Analysis Lecture. • Textbook Problems 1F#2,5,6,7,8 all • Empirical Rule Lecture. • Textbook Problems 1F#19-22 all • Normal Probabilities Lecture. • Textbook Problems 1F#23-25 all

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Sept 16	Section 1G (part 1)	<ul style="list-style-type: none"> • Work on project#2. • Shape Activity. • Median Activity. • Quartiles & IQR Activity. • Box-Plot & Outliers Activity.
Sept 18	Sections 1G (part 2)	<ul style="list-style-type: none"> • Work on project#2. • Skewed & Non-normal Data Analysis Lecture. • Textbook Problems 1G#2,3,4,7 • Other Quantitative Statistics Lecture and Activity. • Section 2A Statistics & Parameters Lecture. • Textbook problems 2A#2-25 all
Sept 23	Sections 2A & 2B	<ul style="list-style-type: none"> • 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.
Sept 25	Section 2C & 2D	<ul style="list-style-type: none"> • 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).
Sept 30	Section 2E (part 1)	<ul style="list-style-type: none"> • Work on project#2. • Critical Value Z-scores StatKey Activity. • Population Proportion Confidence Interval Calculations and Conditions Lecture. • Textbook Problems 2E#1,4-11. • Critical Value T-scores StatKey Activity. • Population Mean Average Confidence Interval Calculations and Conditions Lecture. • Textbook Problems 2E#2,12-19.
Oct 2	Sections 2E (part 2)	<ul style="list-style-type: none"> • 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
Oct 7	Section 2F (part 1)	<ul style="list-style-type: none"> • Project#2 Due Today! • 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
Oct 9	Section 2F (part 2)	<ul style="list-style-type: none"> • Work on project#3. • Stat Support Activity: Calculations for Matched Pair mean confidence intervals. • Lecture: Two-population confidence intervals conditions and bootstraps.

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		<ul style="list-style-type: none"> • Textbook problems 2F#13-20 • Go over Project#3
Oct 14	Section 3A & 3B	<ul style="list-style-type: none"> • 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.
Oct 16	Section 3B & 3C	<ul style="list-style-type: none"> • Work on project#3. • Stat Support Activity: Significance Levels (<i>Also includes drawing distributions and labeling critical values & test statistics</i>) • Section 3B Lecture: Using StatKey and Significance level to Calculate Critical Values. • Textbook problems 3B#21-29 all. • Section 3B Lecture: One-Population Test Stat Sentences and Calculations. • Textbook problems 3B#30-35 all. • Section 3C Stat Support Activity: Scientific Notation (<i>Also includes Scientific Notation to % conversions.</i>)
Oct 21	Section 3C	<ul style="list-style-type: none"> • Finish 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)
Oct 23	Sections 3D & 3E	<ul style="list-style-type: none"> • Project#3 Due Today! • 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. • 3E Lecture: Type 1 and Type 2 Errors. • Finish textbook problems 3E#1-15.
Oct 28	Section 3F	<ul style="list-style-type: none"> • Lecture Section 3F One-Population Proportion Hypothesis Test. • Finish problems 3F#1,4-7. • Lecture Section 3F One-Population Mean Hypothesis Test. • 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. • Lecture Section 3F One-Population Mean and Proportion Hypothesis Tests with StatKey. • Do textbook problems 3F#12,13,18,23
Oct 30	Section 4B	<ul style="list-style-type: none"> • 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

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		<ul style="list-style-type: none"> 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.
Nov 4	Section 4C	<ul style="list-style-type: none"> Go over project#4 Lecture Section 4C: Intro to two-pop. proportion Z-test. ($H_0, H_a, \text{test stat}$) Stat Support Activity: Z-test statistic Calculations#1-3 Problems 4C#1-10 Lecture Section 4C: Conditions and Example Test Problems 4C#22,26-30 Lecture Section 4C: Two-pop. proportion experiments and randomization. Problems 4C#21,23,31-34,35ab HW: Finish Activity Problems, Finish 4C problems, and work on project#4.
Nov 6	Section 4A	<ul style="list-style-type: none"> Lecture 4A: Intro to the Two-Population T-test statistic Stat Support Activity: 2-population T-test statistic Calculations#1-4 Problems 4A#1-10 Lecture 4A: Two-Population Mean Hypothesis Test for Independent Groups. (Example 4A#31,37) Problems 4A#22,23,25,29,30,34,36 Lecture 4A: Matched Pair Population Mean Difference Hypothesis Test. (Example 4A#28,35) Problems 4A#21,24,28,32,35 HW: Finish Stat Support Activity Problems, Finish 4A problems, and work on project#4. NOTE: Last day to drop is this Saturday November 9th!
Nov 11	COC Holiday	No Class Today. Happy Veterans Day!
Nov 13	Section 4D	<ul style="list-style-type: none"> Lecture 4D: Intro to Chi-Square Test Statistics Problems 4D#1-25 Lecture 4D: Traditional Goodness of Fit Hypothesis Tests Problems 4D#30-32 Lecture 4D: Randomization Goodness of Fit Hypothesis Tests Problems 4D#26-29 Homework: Work on project#4. Finish problems 4D. Finish and turn in make-up work.
Nov 18	Sections 4E	<ul style="list-style-type: none"> Finish Project#4! Lecture 4E: Contingency Table Marginal Proportions Problems 4E#3,4,11,12,19,20,27,28 Lecture 4E: Contingency Table Joint Proportions Problems 4E#5-8,13-16,21-24,29-32 Lecture 4E: Contingency Table Conditional Proportions Problems 4E#1,2,9,10,17,18,25,26 Work on project#4. Finish Problems 4E. Finish and turn in make-up work.
Nov 20	Section 4F	<ul style="list-style-type: none"> Project#4 Due Today! Chi-Square Critical Values and P-values Activity 4F#1-20 Lecture 4F: Categorical Association Test 4F#23-31 Lecture 4F: Categorical Association Test with Randomization

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		<ul style="list-style-type: none"> • 4F#32-35 • Work on project#4. Finish problems 4F. Finish and turn in make-up work.
Nov 25	Section 4G	<ul style="list-style-type: none"> • Lecture: Explanatory & Response variables, Scatterplots, Correlation Coefficient (r), coefficient of determination (r^2). • Stat Support Correlation Activity#1-11 • Lecture: Regression lines, slope, y-intercept • Stat Support Regression Line Activity#1-8 • Lecture: Predictions, Extrapolation, Residuals, Standard Deviation of the Residual Errors (s_e) • Problems 4G#1-8,11,13,15 • Finish and turn in make-up work. <p>Homework: Finish Correlation Activity problems#1-11, Regression Line Activity Problems#1-8 and 4G#1-8,11,13,15.</p>
Nov 27	Section 4H	<ul style="list-style-type: none"> • Lecture: Correlation Test H_0 & H_a. Correlation Test Activity#1-5 • Lecture: r with critical values. Correlation Test Activity#6-13 • Lecture: StatKey T-test statistics, Critical Values & P-values. Correlation Test Activity#14-21 • Lecture: Residuals, Residual Plots, Correlation Test Conditions • Problems 4H#21-28 • Homework: Finish 4H problems and Activity problems Finish and turn in make-up work.
Dec 2	Final Review	<ul style="list-style-type: none"> • Study for Final Exam! • Finish and turn in make-up work.
Dec 4	Cumulative Final Exam	<ul style="list-style-type: none"> • Last day to turn in make-up work!! Math 140 is over! Have a great winter break!