

**COC Math 140 In-Person 16-week MW Homework Schedule**  
**Project-Based Curriculum / Teachout Textbook / Spring 2024 / Updated 5-15-24**

<b>Date</b>	<b>Schedule</b>	<b>Assignments</b>
<b>Feb 5</b>	Syllabus, Schedule, Section 1A	Read syllabus and schedule. Find project team members. Email Teachout choice of project questions and team members name. Types of Data Lecture. Problems 1A#1,2,3.
<b>Feb 7</b>	Section 1B	Start collecting data for project#1. Work on project#1. Collecting Data Lecture. Discuss project#1 during class. Problems 1B#1-11 all.
<b>Feb 12</b>	Section 1C	Collect data for project#1. Work on project#1. Bias Lecture. Excel Project Data Activity – Typing data, “Other” category, Custom Sort. Problems 1C#1-6 all.
<b>Feb 14</b>	Section 1D	Finish collecting data for project#1. Work on project#1. Experiment Lecture. Class Experiment Ruler Activity. Problems 1D#1-6,17-20
<b>Feb 19</b>	<b>COC Holiday</b>	<b>No class.</b> Work on project#1.
<b>Feb 21</b>	Section 1E	<b>Finish project#1!</b> Rounding Exercise. Lecture Section 1E (% Conversions, Proportions, Amounts, % Increase, StatKey). Problems 1E#1a-h,2a-h,3,4,6,7,9,13-15,18,20,22
<b>Feb 26</b>	Section 1F	<b>Project#1 Due Today!</b> Lecture Section 1F (Normal, Mean, Standard Deviation, Typical Values, Outliers, Z-scores, Empirical Rule, Normal %) Start project#2.
<b>Feb 28</b>	Section 1F & 1G	Work on project#2. Section 1F Review. Go over problems 1F#1,2,6,7,9-11,14,15,19,22,24. Median Activity, Quartiles & IQR Activity
<b>Mar 4</b>	Section 1G	Work on project#2. Shape Activity. Box-Plot Activity Skewed or Non-normal Data Analysis Lecture. Finish problems 1G#1,2,3,4,7
<b>Mar 6</b>	Section 1G & 2A	Work on project#2. Other Quantitative Statistics Activity Lecture 2A Statistics and Parameters Finish problems 2A#2-25 all
<b>Mar 11</b>	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 and 2C#1-7,9,10,17,18.
<b>Mar 13</b>	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).
<b>Mar 18</b>	Section 2E	<b>Finish project#2!</b> Critical Value Z-scores StatKey Activity. Critical Value T-scores StatKey Activity. One-Population Proportion Confidence Interval Calculations and Conditions. Textbook Problems 2E#1,4-7. One-Population Mean Average Confidence Interval Calculations and Conditions. Textbook Problems 2E#2,12-15.
<b>Mar 20</b>	Sections 2E - 2F	<b>Project#2 Due Today!</b> Work on project#3. One-Population Mean and Proportion Bootstrap Confidence Interval Lecture. Textbook Problems 2E#3,20,21,24,25. Two-Population Confidence Interval Interpretations Lecture. Textbook Problems 2F#4-9 all.
<b>Mar 25</b>	Sections 2F	Work on project#3: Lecture: Two-Population Proportion, Mean, and Matched Pair Confidence Interval Formulas Conditions. Lecture: Two-Population Proportion, Mean, and Matched Pair Bootstrap. Textbook Problems 2F#13-20.

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<b>Mar 27</b>	Sections 3A & 3B	Work on project#3. Stat Support Activity: Inequalities and 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.
<b>Apr 1 &amp; 3</b>	<b>Spring Break</b>	Have a nice spring break! Work on project#3. Catch up on make-up work.
<b>Apr 8</b>	Sections 3B	Work on project#3. Stat Support Activity: Significance Levels <i>(Also includes drawing distributions and labeling critical values &amp; test statistics)</i> 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.
<b>Apr 10</b>	Section 3C	Work on project#3. Stat Support Activity: Scientific Notation <i>(Also includes P-value proportion and % conversions)</i> Lecture: 3C Introduction to P-value. P-value in Hypothesis Test Example 3C#33. Textbook problems 3C#1-15 & #33-34 Lecture: StatKey Theoretical Distribution P-value Calculations. Example 3C#40&41. Finish textbook problems 3C#38-42. Stat Support Activity: Drawing P-value, Significance Level, Test Statistic and Critical Value on same distribution.
<b>Apr 15</b>	Section 3D & 3E	<b>Finish project#3!</b> Lecture: Section 3D Conclusions. Hypothesis Test Conclusion Activity#1-8. Finish textbook problems 3D#17-20. Lecture: 3E Type 1 and Type 2 Errors. Finish textbook problems 3E#1-15.
<b>Apr 17</b>	Section 3F	<b>Project#3 Due Today!</b> Lecture One Population Hypothesis Test Conditions Finish problems 3F#1-11. Stat Support Activity: Randomized Simulation (#1 & #2) Lecture One Population Hypothesis Tests Finish problems 3F#12,14,15,18,21,22 <b>Problems Section 3F will be collected.</b>
<b>Apr 22</b>	Section 4B	<b>Class Cancelled due to instructor illness.</b> Go to <a href="http://www.matt-teachout.org">www.matt-teachout.org</a> . Watch both of the section 4B lecture videos "Introduction to the ANOVA Hypothesis Test" on the statistics page and take hand written notes. Watch both of the section 4B lecture videos "ANOVA Hypothesis Test with StatKey and Statcato" on the statistics page and take hand written notes. Watch all three lecture videos on problems 4B#26,30,32 on the statistics page and take hand written notes. Finish problems 4B#1-5,21-24,26,30,32. Start on project#4 after studying section 4B. <b>Section 4B Lecture Notes and Problems will be collected.</b>
<b>Apr 24</b>	Section 4C	Work on project#4. Lecture 4C: Two-Population Proportion Hypothesis Test Finish problems 4C#1-5, 21-23,27,29,32,33,35ab
<b>Apr 29</b>	Section 4A	Work on project#4. Lecture 4A: Two-Population Mean Hypothesis Test (Independent Groups) Lecture 4A: Matched Pair Population Mean Difference Hypothesis Test Finish problems 4A#1-5,21-27,28,29,33,34,35

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<b>May 1</b>	Section 4D	Lecture 4D: Intro to Chi-Square Test Statistics Problems 4D#1-5,21-25 Lecture 4D: Goodness of Fit Hypothesis Tests Problems 4D#26,27,30,31. HW: Finish Textbook Problems. Work on project#4.
<b>May 6</b>	Sections 4E	Lecture 4E: Contingency Table Marginal Proportions Problems 4E#3,4,11,12,19,20 Lecture 4E: Contingency Table Joint Proportions Problems 4E#5-8,21,23 Lecture 4E: Contingency Table Conditional Proportions Problems 4E#1,2,9,10,17,18 Work on project#4. Finish Problems 4E. Finish and turn in make-up work.
<b>May 8</b>	Section 4F	Chi-Square Critical Values and P-values Activity 4F#6-10,16-20 Lecture 4F: Categorical Association Test 4F#23-27,28,29,31 Lecture 4F: Categorical Association Test with Randomization 4F#32,33,35 Work on project#4. Finish problems 4F. Finish and turn in make-up work.
<b>May 13</b>	Section 4G	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, predictions, extrapolation, residuals, standard deviation of the residual errors ( $s_e$ ) <b>Finish Project#4!</b> Finish and turn in make-up work. Homework: Finish Activity problems#1-11 and 4G#1-7,10,11. (Collected on 5/15)
<b>May 15</b>	Section 4H	<b>Project#4 Due Today!</b> Lecture: Correlation Test $H_0, H_a, T$ -test statistic & $r$ . Problems 4H#1-10 Lecture: Residuals, Residual Plots, Correlation Test Conditions. Problems 4H#21-29 Homework: Finish problems 4H#1-10 and 21-29. Finish and turn in make-up work.
<b>May 20</b>	Final Review #1	Finish problems Ch1 Review Sheet #1,2bdgh,4,5,6,7abc,8,9,12abc,14-18 Ch2 Review Sheet#1( $n, \pi, \hat{p}, \mu, \bar{x}$ ),10abefgh,12 <b>Study for Final Exam!</b> Finish and turn in make-up work.
<b>May 22</b>	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 <b>Study for Final Exam!</b> Finish and turn in make-up work.
<b>May 27</b>	<b>COC Holiday</b>	<b>No class. Study for Final Exam!</b> Finish and turn in make-up work.
<b>May 29</b>	<b>Cumulative Final Exam</b>	<b>Last day to turn in make-up work!!</b> Math 140 is over! Have a great summer!