Lesson	Date	Day	Major Topic (Unit)	Minor Topic	Content	REM
0	8/23/18	Thu		**Freshman Only**		1/2 day for Freshman
1	8/24/18	Fri			**class expectations, policies, receive texts**	1st full day
2	8/27/18	Mon	**Intro**	Construction and interpreting graphical displays of univariate data	Introductions, texts, handouts, Example: "Is the die fair?" introductory example with exercises	
3	8/28/18	Tue	Unit 1 - Exploring Data (Describing patterns and departures from patterns)		Types of data / categorical data	
4	8/29/18	Wed			Dot plots, Stem and Leaf Plots - Pareto and pie charts	
5	8/30/18	Thu			Preparing lists and creating distributions; Frequency Distributions, Histograms	
6	8/31/18	Fri			Relevance of center and spread, clusters and gaps, shape, outliers, and unusual features	
	9/3/18	Mon			**Labor Day**	Labor Day
7	9/4/18	Tue		Summarizing distribution of univariate data	Creating and exploring frequency plots	
8	9/5/18	Wed			Cumulative frequency plots creation and exploration	
9	9/6/18	Thu			Measures of the center (mean, median, mode)	
10	9/7/18	Fri			Measuring spread (range, interquartile range, standard deviation) [Part 1]	
11	9/10/18	Mon			**Computer Lab**	
12	9/11/18	Tue			Measuring spread (range, interquartile range, standard deviation) [Part 2]	
13	9/12/18	Wed			Measuring position and relative standings (quartiles, percentiles, **z-score introduction**)	Delayed Start
14	9/13/18	Thu		Comparing distributions of univariate data (dot plots, back-to-back stem and leaf plots, parallel box plots, frequency diagrams)	Study of box plots (more); Comparing center and spread within and between distributions (day 1)	
15	9/14/18	Fri			Comparing center and spread within and between distributions (day 2)	
16	9/17/18	Mon			**Computer Lab**	
17	9/18/18	Tue		Exploring bivariate data	Comparing distribution shapes, clusters, gaps, outliers and unusual features	
18	9/19/18	Wed			Patterns in scatter plots	
19	9/20/18	Thu			Correlation and linearity; Least squares regression line	
20	9/21/18	Fri			Residual plots, outliers, and influential points	
21	9/24/18	Mon			**Excel Regression Computer Lab**	
22	9/25/18	Tue			Regression Variation and prediction intervals	
23	9/26/18	Wed			Transformations to achieve linearity (logarithmic and power transformations)	
24	9/27/18	Thu			Frequency tables and bar charts. Marginal and joint frequency in 2-way tables	

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25	9/28/18	Fri		Exploring categorical data	Conditional relative frequencies. Using bar charts to compare distributions	
26	10/1/18	Mon			**Computer Lab**	
27	10/2/18	Tue		**Unit Assessment**	**Unit (Exploring Data) Test**	
28	10/3/18	Wed	Unit 2 - Sampling and Experiment Design	Methods of Data Collection	Overview of methods of data collection: Census, Survey, Experiment, Observational study	
29	10/4/18	Thu			Characteristics of a well designed & conducted survey	
30	10/5/18	Fri		Planning and conducting surveys	Population, samples, and random selection	
31	10/8/18	Mon			**Computer Lab**	
32	10/9/18	Tue			Sources of bias in sampling and surveys	
33	10/10/18	Wed			Sampling methods: simple random sampling and stratified random sampling	Delayed Start
34	10/11/18	Thu		Planning and conducting experiments	Treatments, control groups, experimental units, random assignment, and replication	
35	10/12/18	Fri			Sources of bias and confounding, placebo effect and blinding	
36	10/15/18	Mon			**Computer Lab**	
37	10/16/18	Tue		Conclusions from observation, surveys, and experiments	Completely randomized design	
38	10/17/18	Wed			Randomized block design, including matched pairs design, Multistage Sampling	
39	10/18/18	Thu			In-class student analysis of different surveys / experiments to generalize results and types of conclusions.	End 1st Qtr
	10/19/18	Fri				Flex Day
	10/22/18	Mon				No School - new teacher follow-up
40	10/23/18	Tue		**Unit Assessment**	**Student presentation of survey and experiment projects**	Start 2nd Qtr
41	10/24/18	Wed			**Unit (Sampling and experiment design) Test**	
42	10/25/18	Thu	and simulation)	Probability	Interpreting Probability (includes long run relative frequencies)	
43	10/26/18	Fri			Basic probability concepts and "Law of large numbers" concept	
44	10/29/18	Mon			**Computer Lab**	
45	10/30/18	Tue			Addition and multiplication rules	
46	10/31/18	Wed			Conditional probability and independence, Counting Basics: permutations and combinations	
47	11/1/18	Thu			Simulation of random behavior and probability distributions. Introduction to Excel use in simulation	
48	11/2/18	Fri			Discrete random variables and the binomial and Poisson distributions	

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49	11/5/18	Mon	Unit 3 - Anticipating Patterns (Exploring random phenomena using probability	Combining independent random variables	**Computer Lab**	
50	11/6/18	Tue			Expected value (mean) and SD of a random variable	
51	11/7/18	Wed			Independent vs. dependent variables	
52	11/8/18	Thu			Mean and SD for sums and differences of independent variables	
53	11/9/18	Fri		The Normal Distribution	Properties and tables of the Normal Distribution. Introduction to the Standard Normal Distribution (Z)	
54	11/12/18	Mon			**Computer Lab**	
55	11/13/18	Tue			The normal distribution as a model for measurements. Application of the Z distribution. Assessing normality.	
56	11/14/18	Wed		Sampling Distributions	Central Limit Theorem development and implication. Sampling distribution of sample proportion	Delayed Start
57	11/15/18	Thu			Sampling distribution of sample mean; Simulation of sampling distributions	
58	11/16/18	Fri			Sampling distribution of the difference between two independent proportions / means	
	11/19-23/18					No school - Thanksgivng Break
59	11/26/18	Mon			**Computer Lab**	
60	11/27/18	Tue			Student t distribution description and application examples	
61	11/28/18	Wed			Chi-square distribution description and applications examples	
62	11/29/18	Thu			Overview of estimating population parameters and margin of errors. Logic of confidence intervals	
63	11/30/18	Fri		**Unit Assessment**	**Unit (Anticipating Patterns) Test**	
64	12/3/18	Mon	estimating population parameters and testing hypothesis)	Estimating Population Parameters (point estimators & confident intervals)	**Computer Lab**	
65	12/4/18	Tue			Investigation of point estimators , unbiasedness, and variability; Estimating a population proportion	
66	12/5/18	Wed			Estimating a population mean (standard deviation known and NOT known)	
67	12/6/18	Thu			Confidence interval for a difference between 2 proportions	
68	12/7/18	Fri			Confidence interval for the difference of two means (paired and unpaired)	
69	12/10/18	Mon			Overview of Hypotheses Testing. Logic of hypotheses testing; Sample test for a proportion	
70	12/11/18	Tue			Hypothesis test for a mean (sigma known and NOT known)	
71	12/12/18	Wed			Testing a claim about standard deviation or variance.	Delayed Start
72	12/13/18	Thu			Sample test for a difference **between** two proportions	
73	12/14/18	Fri			Hypothesis test for a difference between two means (paired and unpaired)	

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74	12/17/18	Mon	Unit 4 - Statistical Inference (	Tests of Significance	Inferences from Matched Pairs	
75	12/18/18	Tue			Chi-square test for goodness of fit, homogeneity of proportions, and independence (1 and 2 way)	
76	12/19/18	Wed			Test for the slope of a least-squares regression line; Confidence interval for the slope of a least-squares regression line	
77	12/20/18	Thu		**Unit Assessment**	**Unit (statistical inference) Test**	
	12/21/18	Fri				Flex Day - End 2nd Qtr
	12/24/18-1/4/19					Christmas Break
	1/7/19	Mon				PD - Teacher Work Day