Stats 2: BAPS First Quarter Learning Targets

	Learning Targets	1st	2nd	Notes
FD	**Featherduster** ⇒ fulfill your duties in committee work ⇒ appropriately greet subjects on data collection day ⇒ complete data analysis and data visualization as assigned			
APR	**AP Research Collaboration** ⇒ listen to your client, remembering that this is their research and not yours ⇒ explain statistical ideas to your client in language that they can understand ⇒ provide feedback on written proposals and papers			
1.1	**Planning & Executing Surveys** ⇒ understand the characteristics and benefits of sampling techniques (AP) ⇒ understand and apply characteristics of good survey implementation ⇒ understand and implement characteristics of good survey questions ⇒ use correct interview etiquette			
1.2	**Statistical Reporting in the Media** ⇒ correctly identify the nature and scope of studies as reported in the media (AP) ⇒ understand the information presented in professional polling reports ⇒ identify methods for coping with low response rates ⇒ understand the electoral college and the 2016 polls/election			

1.3	**Experiments** ⇒ recognize experiment pioneers (Frances Oldham Kelsey) ⇒ explain how to establish causation when experiments aren't possible (Zika, smoking and cancer) ⇒ understand why blocking is effective ⇒ use correct notation for modeling response variables in experiments ⇒ identify advanced designs of studies			
2.1	**R Basics: Correctly use the following** ⇒ Comparison, random assignment, control, replication ⇒ Describe random assignment of treatments using a random digit table or technology ⇒ Describe a completely randomized experiment (diagram optional)			
2.2	**R Data Wrangling: Correctly use the following** ⇒ Explain the purpose of blocking ⇒ Describe a randomized block experiment ⇒ Describe a matched pair experiment			
2.3	**R Data Visualization: Correctly use the following** ⇒ Calculate and display (bar graph) the marginal distributions and conditional distributions from a two-way table ⇒ Describe the association between two categorical variables by comparing appropriate conditional distributions or by creating a segmented bar graph			