MA376 SYLLABUS – SPRING 2020 (AY20-2)

	Lesson	Date	Topic	Reading	Out of Class	Notes
Sources of Variation	Lsn 1	9-Jan	Intro to Applied Stats & R-Studio, Sources of Variation Diagram, Six Steps of Investigative Process	Course memo, 1-13 (Up to Salary Discrimination)	Load R/R Studio	
	Lsn 2	13-Jan	Observational vs Experimental Studies, Confounding Variables, introduction to statistical models	14-27		
	Lsn 3	16-Jan	Sources of Variation in an Experiment	33-48	Exploration 1.1: Memorizing	
	Lsn 4	21-Jan	Quantifying Sources of Variation	49-63	Exploration 1.2: Starry Navigation	Exploration 1.1 Due
	Lsn 5	24-Jan	Is the Variation Explained Statistically Significant?	64-80		
	Lsn 6	28-Jan	Comparing Several Groups	81-101	Exploration 1.4: Golden Squirrels	Exploration 1.2 Due
	Lsn 7	30-Jan	Confidence and Prediction Intervals	102-115		
	Lsn 8	4-Feb	Study Design Considerations	116-129		Writ I
Controlling	Lsn 9	6-Feb	Paired Data	133-147	Exploration 2.1: Chip Melting	Exploration 1.4 Due
	Lsn 10	10-Feb	Randomized Complete Block Design	148-171		
	Lsn 11	14-Feb	Observational Studies	172-194	Exploration 2.3: Car Acceleration	Exploration 2.1 Due
	Lsn 12	19-Feb	Multi-Factor Experiments	195-215		
	Lsn 13	21-Feb	Statistical Interactions	216-239	Exploration 3.2: Optimizing Ads	Exploration 2.3 Due
	Lsn 14	25-Feb	Replication	240-257		
	Lsn 15	27-Feb	Interactions in Observational Studies	258-270		Writ II
	Lsn 16	3-Mar	Linear Regression	271-287	Exploration 4.1: Fatty Acids and DNA	Exploration 3.2 Due
	Lsn 17	5-Mar	Inference for Linear Regression	288-305		
	Lsn 18	17-Mar	Quantitative and Categorical Explanatory Variables	306-324	Exploration 4.3 Predicting Height	Exploration 4.1 Due
	Lsn 19	19-Mar	Two Variable Model with Interaction	325-338		
	Lsn 20	24-Mar	Multi-level Categorical Variables	339-357	Exploration 4.5: Patient Satisfaction	Exploration 4.3 Due
	Lsn 21	26-Mar	Experiments with multiple quantitative explanatory variables	358-379		
	Lsn 22	30-Mar	Observational Studies with multiple quantitative explanatory variables	380-394	Exploration 5.2: SLO real estate data	Exploration 4.5 Due
	Lsn 23	3-Apr	Nonlinear associations	395-405		
	Lsn 24	7-Apr	Modeling nonlinear associations	406-414		Writ III
	Lsn 25	10-Apr	Comparing Proportions	415-435		Exploration 5.2 Due
	Lsn 26	14-Apr	Intro to Logistic Regression	436-450	Exploration 6.2: Alcohol Abuse	
	Lsn 27	16-Apr	Logistic Regression	451-463	Exploration 6.3: Alcohol Abuse Cont.	Exploration 6.2 Due
	Lsn 28	21-Apr	Dealing with Messy Data	464-487		
	Lsn 29	24-Apr	Multiple Regression with Many Explanatory Variables	488-509		Exploration 6.3 Due
	Lsn 30	5-May	Review			