

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	22-Aug	Observational vs Experimental Studies, Confounding Variables, introduction to statistical models	14-27		
	Lsn 3	26-Aug	Sources of Variation in an Experiment	33-48	Exploration 1.1: Memorizing	
	Lsn 4	29-Aug	Quantifying Sources of Variation	49-63	Exploration 1.2: Starry Navigation	Exploration 1.1 Due
	Lsn 5	5-Sep	Is the Variation Explained Statistically Significant?	64-80		
	Lsn 6	11-Sep	Comparing Several Groups	81-101	Exploration 1.4: Golden Squirrels	Exploration 1.2 Due
	Lsn 7	13-Sep	Confidence and Prediction Intervals	102-115		
	Lsn 8	17-Sep	Study Design Considerations	116-129		Writ I
Controlling	Lsn 9	19-Sep	Paired Data	133-147	Exploration 2.1: Chip Melting	Exploration 1.4 Due
	Lsn 10	24-Sep	Randomized Complete Block Design	148-171		
	Lsn 11	26-Sep	Observational Studies	172-194	Exploration 2.3: Car Acceleration	Exploration 2.1 Due
	Lsn 12	30-Sep	Multi-Factor Experiments	195-215		
	Lsn 13	4-Oct	Statistical Interactions	216-239	Exploration 3.2: Optimizing Ads	Exploration 2.3 Due
	Lsn 14	8-Oct	Replication	240-257		
	Lsn 15	10-Oct	Interactions in Observational Studies	258-270		Writ II
	Lsn 16	15-Oct	Linear Regression	271-287	Exploration 4.1: Fatty Acids and DNA	Exploration 3.2 Due
	Lsn 17	17-Oct	Inference for Linear Regression	288-305		
	Lsn 18	21-Oct	Quantitative and Categorical Explanatory Variables	306-324	Exploration 4.3 Predicting Height	Exploration 4.1 Due
	Lsn 19	25-Oct	Two Variable Model with Interaction	325-338		
	Lsn 20	29-Oct	Multi-level Categorical Variables	339-357	Exploration 4.5: Patient Satisfaction	Exploration 4.3 Due
	Lsn 21	31-Oct	Experiments with multiple quantitative explanatory variables	358-379		
	Lsn 22	5-Nov	Observational Studies with multiple quantitative explanatory variables	380-394	Exploration 5.2: SLO real estate data	Exploration 4.5 Due
	Lsn 23	7-Nov	Nonlinear associations	395-405		
	Lsn 24	12-Nov	Modeling nonlinear associations	406-414		Writ II
	Lsn 25	15-Nov	Comparing Proportions	415-435		Exploration 5.2 Due
	Lsn 26	19-Nov	Intro to Logistic Regression	436-450	Exploration 6.2: Alcohol Abuse	
	Lsn 27	26-Nov	Logistic Regression	451-463	Exploration 6.3: Alcohol Abuse Cont.	Exploration 6.2 Due
	Lsn 28	2-Dec	Dealing with Messy Data	464-487		
	Lsn 29	6-Dec	Multiple Regression with Many Explanatory Variables	488-509		Exploration 6.3 Due
	Lsn 30	10-Dec	Review			