

Date	Class topic	Assignments
	Overview and thinking about data	
9/5/17	Class overview	
9/7/17	Data quality	
	Module 1: Hypothesis testing	
9/12/17	Review of key ideas in hypothesis testing, statistical power, one and two-tailed tests, common parametric and nonparametric tests	Hypothesis testing assignment due Wednesday, 9/27 at 9:00PM
9/14/17	Confidence intervals, hypothesis testing in research articles, drawbacks and caveats of hypothesis testing for making scientific claims	
	Module 2: Regression modeling	
9/19/17	Review of linear and logistic regression, generalized linear models, conditional logistic regression	Regression modeling assignment due Wednesday, 10/4 at 9:00PM
9/21/17	Model selection, weighted least squares, measurement error	
	Module 3: Causal inference	
9/26/17	Foundational ideas in causal inference, Rubin causal model, matching methods	First attempt for causal inference assignment due Wednesday, 10/25 at 9:00PM. Last attempts due by Saturday, 11/18 at 9:00PM
9/28/17		
10/3/17	Propensity scores, interrupted time series designs, regression discontinuity designs	
10/5/17		
10/10/17	Randomized controlled trials, instrumental variable methods	
10/12/17		
	Review	
10/17/17	Review of homework, modules 1-3	
10/19/17	Causal inference data analysis	
	Module 4: Survey analysis	
10/24/17	Questionnaire design, survey designs, weighting, total survey error framework, analysis of survey data, minimizing nonresponse, systematic biases in surveys	Survey analysis assignment due Saturday, 11/11 at 9:00PM
10/26/17		
10/31/17		
	Module 5: Survival analysis	
11/2/17	Time-to-event data, censoring mechanisms, Kaplan-Meier estimation, Cox regression, systematic biases in survival studies	Survival analysis assignment due Saturday, 11/18 at 9:00PM
11/7/17		
11/9/17		
	Module 6: Longitudinal data analysis	
11/14/17	Structure of longitudinal data, repeated measures ANOVA, mixed effects models, generalized estimating equations	No assignment for this module
11/16/17		
Thanksgiving Break: 11/20 – 11/24		

	<b>Review</b>	
11/28/17	Review day 1	
11/30/17	Review day 2	
	<b>Final project presentations</b>	
12/5/17	Presentations: day 1	
12/7/17	Presentations: day 2	