AFRE 891: Data Analytics and Emerging Methods in Applied Economics

Tuesdays and Thursdays — 1:00 - 2:20pm — Baker Hall 121

Week #	Tuesday	Thursday	Topics	Final Project	Assessments
1	January 14 Class 1 Lecture	January 16 Class 2 Lecture	Course Introduction R Basics		
2	January 21 Class 3 Lecture	January 23 Class 4 Lecture	Version Control with GitHub R Markdown		
3	January 28 Class 5 Lecture	January 30 Class 6 Lecture	Data Wrangling Joining Data		Assignment 1 Due Friday, January 31
4	February 4 Class 7 Lecture	February 6 Class 8 Lecture	Data Tidying with *tidyr* Data Cleaning		
5	February 11 Class 9 Lecture	February 13 No Class	Data Cleaning, Continued		Assignment 2 Due Friday, February 16
6	February 18 Class 10 Lecture	February 20 Class 11 Lecture	Data Visualization		
7	February 25 Class 12 Lecture: Review	February 27 Class 13 Lecture	Data Acquisition Scraping Static Websites Scraping Dynamic Websites	Proposal Due Friday, February 28	Assignment 3 Due Friday, February 28
8	March 4 No Class - Spring Break	March 6 No Class - Spring Break			
9	March 11 Class 14 Lecture	March 13 Class 15 Lecture	Data Acquisition through APIs Intro to Programming Iteration		
10	March 18 Class 16 Lecture	March 20 Class 17 Lecture	Function Writing Vectorization and Paralellization Intro to Regression		Assignment 4 Due Friday, March 21
11	March 25 Class 18 Lecture	March 27 Class 19 Lecture	Fast Fixed Effects and IV Regression Tables and Figures from Regression Output Causal Inference Methods in R		
12	April 1 Class 20 Lecture	April 3 Class 21 Lecture	Synthetic Control Methods in R Introduction to Spatial Data Vector Data in R		Assignment 5 Due Friday, April 4
13	April 8 Class 22 Lecture	April 10 Class 23 Lecture	Raster Data in R Joining Raster and Vector Data Spatial Regression Methods		
14	April 15 Class 24 Lecture	April 17 Class 25 Lecture	Intro to Machine Learning and Classification Model Selection and Regularization Regression Trees and Forest-Based Methods	Material Submission Due Sunday, April 20	
15	April 22 Class 26 Lecture	April 24 Class 27 Lecture	Machine Learning for Causal Treatment Effects		Assignment 6 Due Friday, April 27
16	Final Presentations - Timing TBD				