

BUSN 5000

Weekly Schedule

Chris Cornwell

Spring 2025
(updated 03 Jan 25)

Class Room: Amos B010
Recitation Room: TBA

Class Hours: TR, 935a and 1110a
Recitation Hours: TBA

Deadlines

The *deadline* for submitting all homework and project assignments is 1159p on the *due date*. *Late submissions will not be accepted.*

Week 0 (Jan 6-10) :: Syllabus Day and Getting Started

Reading: [Healy, ch 2](#); BUSN 5000 R orientation and getting started guide

IRL: [“Brown Forman: How Posit allowed us to harness our data science and gain massive efficiencies”](#), Posit Customer Stories.

Due: Homework 0 – **Fri, Jan 10**

Week 1 (Jan 13-17) :: Data Fundamentals

Reading: Bekes and Kedzi, ch 1; Bueno de Mesquita and Fowler, ch 1

IRL: [“How Bad Data Traps People in the US Justice System”](#), *Ted Talks*, April 2022.

Due: Homework 1 – **Fri, Jan 17**

Week 2 (Jan 20-24) :: Beginning to Learn

Reading: Bekes and Kedzi, chs 2-3

IRL: [“What Can Uber Teach Us About the Gender Pay Gap?”](#), *Freakonomics Radio*, Episode 317.

Due: pre-Project exercise – **Mon, Jan 20**

Due: Homework 2 – **Fri, Jan 24**

Week 3 (Jan 27-31) :: Models for Exploration

Reading: Bekes and Kedzi, ch 4; Bueno de Mesquita and Fowler, ch 2,4

IRL: [“How I Use ‘AI’ ”](#), Nicholas Carlini, 1 Aug 2024.

Due: Homework 3 – **Fri, Jan 31**

Week 4 (Feb 3-7) :: Making Inferences

Reading: Bekes and Kedzi, chs 5-6; Bueno de Mesquita and Fowler, ch 6

IRL: [“The Effects of Facebook and Instagram on the 2020 Election: A Deactivation Experiment”](#), PNAS, May 2024.

Due: Homework 4 – **Fri, Feb 7**

Week 5 (Feb 10-14) :: Measurement Error and Sample Selection

Reading: Bueno de Mesquita and Fowler, ch 16

IRL: [“Using internal CPS data to reevaluate trends in labor-earnings gaps”](#), *Monthly Labor Review*, August 2009.

Due: Homework 5 – **Fri, Feb 14**

Week 6 (Feb 17-21) :: Confounding and the Bayesian Approach to Learning from Data

Reading: Bueno de Mesquita and Fowler, ch 15; [“Bayes theorem, the geometry of changing beliefs”](#), 3Blue1Brown. 22 Dec 2019.

IRL: [“Using Bayesian Updating to Improve Decisions under Uncertainty”](#), *California Management Review*, 2020.

Week 7 (Feb 24-28) :: Part I Exam and Introduction to Regression

Reading: Bueno de Mesquita and Fowler, ch 5

PART I EXAM: **Tue, Feb 25 (in class)**

SPRING BREAK (MAR 3-7)

Weeks 8-9 (Mar 10-14, 17-21) :: Regression fundamentals

Reading: Bekes and Kedzi, chs 7-10; Angrist & Pischke, ch 2

IRL: [“The Data Coach”](#), *Against the Rules*, Season 2 Episode 5.

Due: Project progress submission – **Fri, Mar 14**

Due: Homework 6 – **Fri, Mar 21**

Week 10 (Mar 24-28) :: Potential outcomes and causal inference

Reading: Bekes and Kedzi, chs 19-20; Bueno de Mesquita and Fowler, chs 3, 9-11; Angrist & Pischke, ch 1

IRL: [“A/B testing and growth analytics at Airbnb, building data science tools and metric stores with Nick Handel”](#), *The Data Scientist Show*, Episode 37, 23 Mar 2022.

Due: Homework 7 – **Fri, Mar 28**

Week 11 (Mar 31-Apr 4) :: Regression discontinuity

Reading: Bueno de Mesquita and Fowler, ch 12; Angrist & Pischke, ch 4

IRL: [“Does Advertising Actually Work? Part I”](#), *Freakonomics Radio*, Episode 440.

Due: Homework 8 – **Fri, Apr 4**

WITHDRAWAL DEADLINE (APR 3)

Week 12 (Apr 7-11) :: Difference in differences

Reading: Bekes and Kedzi, ch 22; Bueno de Mesquita and Fowler, ch 13; Angrist & Pischke, ch 5

IRL: [“Does Advertising Actually Work? Part II”](#), *Freakonomics Radio*, Episode 441.

Due: Homework 9 – **Fri, Apr 11**

Weeks 13-14 (Apr 14-18, 21-25) :: Introduction to machine learning

Reading: Bekes and Kedzi, chs 13-14; [“Machine Learning: An Applied Econometric Approach”](#), *Journal of Economic Perspectives*, Spring 2017.

IRL: [“In Defense of Zillow’s Besieged Data Scientists”](#), Medium, 16 Nov 2021.

Due: Project final submission – **Mon, Apr 21**

Due: Homework 10 – **Fri, Apr 25**

Weeks 15-16 :: Part II Exam

PART II EXAM (935a section): Tue, May 6 at 800a (in class)

PART II EXAM (1110a section): Thu, May 1 at 1200p (in class)
