

BUSN 5000

Weekly Schedule

Chris Cornwell

Fall 2024
(updated 13 Aug 24)

Class Room: Amos B012 and B010
Recitation Room: TBD

Class Hours: TR, 800a and 1110a
Recitation Hours: TBD

Deadlines

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

Week 0 (Aug 15, 19-23) :: 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.

Week 1 (Aug 26-30) :: 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 0 – **Mon, Aug 26**

Due: pre-Project exercise – **Fri, Aug 30**

Week 2 (Sep 2-6) :: 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: Homework 1 – **Mon, Sep 2**

Week 3 (Sep 9-13) :: 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 2 – **Mon, Sep 9**

Week 4 (Sep 16-20) :: 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 3 – **Mon, Sep 16**

Week 5 (Sep 23-27) :: 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 4 – **Mon, Sep 23**

Week 6 (Sep 30-Oct 4) :: 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.

Due: Homework 5 – **Mon, Sep 30**

Week 7 (Oct 7-11) :: Review and Part I Exam

PART I EXAM: **Thu, Oct 10 (in class)**

Weeks 8-9 (Oct 14-18, 21-25) :: Regression fundamentals

Reading: Bekes and Kedzi, chs 7-10; Bueno de Mesquita and Fowler, ch 5; Angrist & Pischke, ch 2

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

Due: Project progress submission – **Mon, Oct 21**

Week 10 (Oct 28-Nov 1) :: 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 6 – **Mon, Oct 28**

Week 11 (Nov 4-8) :: 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 7 – **Mon, Nov 4**

Week 12 (Nov 11-15) :: 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 8 – **Mon, Nov 11**

Weeks 13-14 (Nov 18-22, 25-26) :: 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: Homework 9 – **Mon, Nov 18**

Due: Project final submission – **Mon, Nov 25**

Weeks 15-16 :: Project submission and Part II Exam

Due: Homework 10 – **Mon, Dec 2**

PART II EXAM (800a section): Tue, Dec 10 at 800a (in class)

PART II EXAM (1110a section): Tue, Dec 10 at 1200p (in class)
