Forecasting and Predictions
DCS 2020/GOV2081
Bowdoin College
Fall 2016
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VAC 308

Office Hours:
Tuesday and Thursday 2-3:30
By appointment

Course Overview
From the beginning of civilization, humans have attempted to see into the future. From soothsayers and crystal balls, to modern statistical models, people are always seeking an edge to understand what will happen next. Correct predictions can mean earning millions on Wall Street, or it can lead to government policies that badly miss the mark. From the early Nineteenth Century to the present, citizens, pundits, and academics have attempted to pick the candidate most likely to win in November. Out of curiosity or practical concern, predictions are a central part of any election cycle. The horse race of political elections is unlikely to go away at any point in the near future.

How do we make predictions and how good are we at it? How well can we predict future human behavior? Is it folly to do so? This course explores the ways in which people make predictions. Through examination of statistical and other methods, students will make predictions about the 2016 election and make critical evaluations of methods of prediction.

What Makes This a Digital and Computational Studies Course?
Bowdoin College has made a conscious effort to ensure that students are taking the fundamental values of a liberal arts education into the 21st Century. This requires an appreciation for the historical, philosophical, and cultural roots of daily life, along with a duty to apply those values to interpreting the complexities of the modern world. In this course, students will learn decidedly modern techniques of social inquiry, including data analysis, programming, computational, and statistical models. These will always be viewed with a critical eye, allowing students to examine the interplay between the traditional values of a liberal arts college and the demands of the modern world.

Required Text:
Silver, Nate. 2015. *The Signal and the Noise.* New York: Penguin Books.
Box-Steffensemeier, Janet M., et al. *Time Series Analysis for the Social Sciences*. Cambridge, UK: Cambridge University Press.

Students should also keep up to date on the Presidential Campaign. A great way to stay informed is by reading political science and data-driven journalism blogs like

The Monkey Cage, FiveThirtyEight, The Upshot, Mischief of Factions, and The LSE USApp blog.

Assignments:

Homework Projects	25%
Midterm	15%
Final	15%
Blog Posts	10%
Prediction Market Project	20%
Participation	15%

Homework Projects

This course does not have a lab component, however there will be weekly homework assignments. These assignments will explore some aspect of the course. Given the widely varying backgrounds of those in the course, some assignments might be easier than others for some students. Students are welcome to attend one of the two homework review sessions each week (Thursday from 4-5:30 and Friday 11:30-1). These review sessions will function more like traditional labs and we will go over the necessary components to complete the assignment.

Blogs

Students will be assigned to groups that will be responsible for completing posts for a course blog in the style of *The Monkey Cage* or *The Upshot.* These blog posts will explore some aspect relevant to the elections and predicting them. It might include critiques of forecasts made by pundits, academics, or politicians, or it might look at events or developments that could impact election predictions. Blogs will need to be submitted by 5pm on the day before the class due. The first 10-15 minutes of class will be devoted to presenting and discussing the blog post.

Prediction Market Project

In this project, students will be assigned to groups. Each group will be given a specific amount of money to be used on the Iowa Electronic Market, a prediction market for political events. Using prior knowledge or that developed in the course, students will work together as a group to make trades and predictions. This provides a way to test your prediction skills. A portion of the grade will be assigned based upon how well the group does. Students will submit a final 7-10 page paper discussing the models or methods used for prediction, as well as a critique about how well the models worked and how they could be improved.

Technology in the Classroom

While laptops have become a significant part of modern life and the academic institution, the intent of this course will be to provide a distraction-free environment. Recent research has demonstrated students are much more likely to retain information when taking notes with pen and paper. Laptops will not be allowed except where the class will be working on labs and projects.

Academic Honesty
As a Bowdoin student, you will be held to the highest standards regarding academic honesty. Any instance of plagiarism will be taken seriously, and will be considered a potential violation of the Bowdoin College Honor Code. Any student who is caught cheating will receive an F on the assignment and most likely in the course.

Late Work
Work is expected to be handed in on the day it is due. Any late work will be deducted 1/3 of a letter grade for each day it is late. Extensions will only be granted in the most severe circumstances and will require documentation.

Attendance and Participation
Students are expected to come to class each day prepared to be active participants in discussion. It is necessary to complete each reading prior to coming to class. As a Bowdoin student, you are expected to remain courteous, respectful, and open at all times during class.

Readings
Week 1
September 1
Intro to the Course

Week 2
September 6 Are Political Scientist Bad at Predicting Elections?
Stevens. "Political Scientists are Lousy Forecasters." *New York Times.*
Voeten. "Data Throwing Chimps and Op-Eds." The Monkey Cage.
Strezhnez. "The Fundamental Uncertainty of Science."
Saideman. "Self-Hating Political Scientist."
Silver. "The Problem with Forecasting and How to Get Better at it." *FiveThirtyEight*.
Hans Noel. "Stop Trying to Predict the Future."
http://www.mischiefsoffaction.com/2014/09/stop-trying-to-predict-future.html

September 8 Old vs. New- A Non-Political Example
Michael Lewis. *Moneyball*. Chapters 1-3.
Neil Paine. "The Imperfect Pursuit of a Perfect Baseball Forecast."
http://fivethirtyeight.com/features/the-imperfect-pursuit-of-a-perfect-baseball-forecast/

Week 3
September 13 Can We Make Predictions?
Tetlock and Gardner. 2015. *Superforecasters*. Chapters 1-2.
Mishra. "How Rousseau Predicted Trump." The New Yorker.

September 15 Statistical Thinking
Pollock. Chapter 6.
Isenberg. *The Victory Lab.* Chapter 6.

Week 4
September 20
Pollock. Chapters 7 and 8.
Lewis-Beck. "Modelers v. Pollsters: The Election Forecast Debate."

September 22 Polling Basics
D. Sunshine Hillygus. "The Evolution of Election Polling in the United States." *Public Opinion Quarterly.*
Duke Institute on Survey Methodology. https://dism.ssri.duke.edu/survey-help/tipsheets
Traugott. "The Accuracy of Opinion Polling and its Relation to its Future." *Oxford Handbook of American Public Opinion and the Media.*

Week 5
September 27
Erikson and Tedin. American Public Opinion. Chapter 2.
Duke Institute on Survey Methodology. https://dism.ssri.duke.edu/survey-help/tipsheets

September 29 Should We Poll?
NPR. Fresh Air Podcast. "Polling is Ubiquitous, But is it Bad for Democracy?" http://www.npr.org/2016/02/11/466405233/polling-is-ubiquitous-but-is-it-bad-for-democracy
Jill Lepore. "Politics and the New Machine." *The New Yorker.* http://www.newyorker.com/magazine/2015/11/16/politics-and-the-new-machine
Morwitz and Pluzinski. 1996. "Do Polls Reflect Opinions or Do Opinions Reflect Polls? The Impact of Political Polling on Voters Expectations, Preferences, and Behavior." *Journal of Consumer Research*.

Week 6
October 4 Dealing with Race, Gender, and Sexuality
Hopkins. "No More Wilder Effect, Never a Whitman Effect: When and Why Polls Mislead about Black and Female Candidates." *Journal of Politics.*
Powell. "Social Desirability Bias in Polling on Same-Sex Marriage Ballot Measures." *American Politics Research.*

October 6 Prediction Markets
Wolfers and Ziztzewitz. 2004. "Prediction Markets". Journal of Economic Perspectives.
Berg, Penney, and Rietz. "Partisan Politics and Congressional Election Prospects: Evidence from the Iowa Electronic Markets." *PS.*
Atanasov. 2016. "Distilling the Wisdom of Crowds: Predictions Markets vs. Prediction Polls." Management Science.

Week 7
October 11
Fall Break- No Class

October 13 Modeling
Campbell and Lewis-Beck. "US Presidential Election Forecasting: An Introduction." International Journal of Forecasting.
Lewis-Beck. "Election Forecasting: Principles and Practice." *British Journal of Politics and International Relations.*

Week 8
October 18
New Models- Text
MacWilliams. "Forecasting Congressional Elections Using Facebook Data." *PS.*
Ceron, Curini, and Iacus. "Using Sentiment Analysis to Monitor Electoral Campaigns: Method Matters- Evidence From the United States and Italy.

October 20 *Midterm*

Week 9
October 25
Lewis-Beck and Tien. "Election Forecasting: The Long View."
Graefe and Armstrong. "Predicting Elections from the Most Important Issue: A Test of the Take-the-Best Heuristic." *Journal of Behavioral Decision Making*.
Abramowitz. "It's About Time: Forecasting the 2008 Presidential Elections with the Time-for-Change Model." International Journal of Forecasting.

October 27 New Models-Networks
Desmarais, La Raja, Kowal. "The Fates of Challengers: Extended Party Networks and Quality Challengers in U.S. House Elections." *American Journal of Political Science*.

Week 10
November 1
Election Day! Predictions Due Before the start of Class

November 3
Elections Post-Mortem, Readings to be assigned

Week 11
November 8
Nate Silver, Signal and the Noise. Chapters 1-3

November 10 Time-Series
Box-Steffensmeier. Chapter 1 and 2.

Week 12
November 15
Nate Silver, Signal and the Noise. Chapters 4-6

November 17
Box-Steffensmeier. Chapter 3 and 4.

Week 13
November 22
Nate Silver, Signal and the Noise. Chapters 6-9

November 24
No Class- Thanksgiving Break

Week 14
November 29

December 1
Box-Steffensmeier. Chapter 5 and 6.

Week 15
December 6
Nate Silver, Signal and the Noise. Chapters 10-13

December 8
Box-Steffensmeier. Chapter 7 and 8.