

**Department of Politics**  
College of Arts & Science  
New York University  
Fall 2018

Rapid-cycle Innovation and Testing in the Public Sector

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**Objective:**

High-performing companies like Google, Amazon, Netflix, and Subway know that to succeed they need to test many ideas, and to quickly allow the promising ones to flourish. They also know how to fail fast and well. The public sector has been relatively slow in integrating innovate-and-test in practice. The rapid pace of innovation in technology and recordkeeping means that public agencies need new, faster, approaches for learning what works to meet their goals and what does not. The aim of this course is to introduce students to the movement toward the democratization of research, involving practitioners (and the people they serve)—as “citizen scientists”—in promoting data-driven innovation and discovery. Students will learn strategies to promote rapid-learning in the public sector, as well as to identify those situations where more patience is necessary. Students will participate in an active BetaGov rapid-cycle research process (described below), from sites across the United States, Mexico, and Colombia, and will observe innovation and testing in practice. The class will be paired with “pracademics” (from criminal justice, social services, and education) who will conduct a pilot: identify a problem, try something new, and test it. Students will serve as citizen scientists, by helping to refine and test the innovation. Students will gain experience in interacting with public-sector and nonprofit “clients” by contributing design decisions, and in clearly communicating progress and lessons learned.

**Course Description:**

This course is offered through the Department of Politics at New York University. It is a 4-credit course, taught in 15 weekly sessions during Fall Semester 2018. The sessions will involve a mix of lectures, seminars, and class discussions. Class time will also be devoted to project-status reports, and to outside speakers from organizations facilitating learning in the public sector (such as the Behavioral Insights Team, Ideas 42, and BetaGov) and public-

sector practitioners. Meetings will be divided into three periods of 50 minutes each, with 10-minute breaks between them. There are no prerequisites.

**Instructor:**

Angela Hawken, Ph.D., is Professor of Public Policy at New York University and director of Litmus, an interdisciplinary research team at NYU, which focuses on innovation and testing in the public sector. Hawken is also the founder and director of BetaGov (betagov.org), which provides rapid-cycle innovation and testing support to government agencies, at no cost to the user. BetaGov has facilitated practitioner efforts to implement and test more than 200 initiatives across the United States and in four countries, working closely with practitioners to identify areas for policy and practice improvement, and giving practitioners a central role so that research is done *with* them, not *to* them.

**Course Requirements:**

There are four requirements for completing the course: (1) Completing the assigned readings, short reading reflections, and short assignments; (2) a mid-term paper; (3) an annotated briefing; and (4) a final paper. The grade for the course will be a weighted average of the responses to the reading reflections (20%), mid-term paper (20%), annotated briefing (20%), and final paper (40%).

**Readings:**

Required readings (texts are available for under \$15):

*Citizen Science* by Caren Cooper

*Nudge: Improving Decisions About Health, Wealth, and Happiness* by Thaler & Sunstein

*Fail Fast, Fail Often: How Losing Can Help You Win* by Babineaux & Krumboltz

The required texts will be supplemented with additional readings of book chapters and articles that will be distributed to students.

**Office Hours:**

The instructor will be available for discussion after regular class hours and is also available to meet students, by appointment, at the Marron Institute for Urban Management. Please e-mail to arrange for an appointment.

## Tentative Course Outline

### Week 1. Introduction

Goals for the introductory session:

- a. Review course logistics, expectations, and requirements.
- b. Students describe, in a sentence or two, policy issues that are of interest to them.
- c. Introduce a portfolio of rapid-cycle research projects for students to select from.

Preparing for class:

Students should be prepared to discuss, in a sentence or two, an area of policy interest. Please be specific, and focus on a policy issue that interests you.

Assigned reading:

A compendium of 5 rapid-cycle randomized controlled trials (RCTs) will be distributed to students ahead of class

### Week 2. Numeracy for practitioners in public offices

Goals for week 2:

- a. Learn how practitioners can put information into perspective, and several common numeracy mistakes (denominator problems, spurious precision, taking data out of context, intentionally misleading graphics and statistics).
- b. Discuss desirable properties of outcomes measures in rapid-cycle research.
- c. Identify candidate outcome measures for student-assigned rapid-cycle pilots.
- d. Discuss expectations for preparing background reviews for rapid-cycle pilots.

Preparing for class:

Students should select a rapid-cycle pilot of interest prior to class.

Assigned reading:

Are nightlights harming our children? Be prepared to discuss Quinn et al. The authors conclude that night lights are associated with vision problems in children. Can you think of a different explanation for what they found?

Quinn, G.E., et al. (1999) "Myopia and ambient lighting at night," *Nature*, **399**:113–114.

Rector, R. (1998) "The myth of widespread American poverty." Washington: Heritage Foundation. [heartland.org/ template-assets/documents/publications/3813.pdf](http://heartland.org/template-assets/documents/publications/3813.pdf)

The author has produced more-recent versions of similar analysis, but this version makes for an interesting review. Be prepared to engage in a critical discussion about: (1) how poverty is defined, and (2) the selective use of data.

### **Week 3. Research methods 101—uses and abuses in the public sector**

Goals for week 3:

- a. Introduced common methods for program and policy evaluation and their strengths and limitations.
- b. Students will review two policy reforms, and the associated policy-evaluation challenges.
- c. Students will be introduced to a BetaGov work team and will be given instructions for a check-in with the team to discuss their rapid-cycle pilot.

Preparing for class:

Students should submit Short Assignment 1 and background reviews for their rapid-cycle pilots.

Assigned reading:

A research primer will be distributed to students ahead of class

### **Week 4. Rapid-cycle research—when to act fast and when to wait**

Goals for week 4:

- a. Introduce the sources of delays typical in traditional evaluation research from securing research funding through publication.
- b. Introduce examples where policymakers need to make immediate decisions, with limited information.
- c. Students will learn to identify policies and programs that can be assessed using rapid-cycle research, and those that require a longer time horizon.
- d. Introduce and use rapid-cycle tools (BetaRandomizer and BetaDash).

Preparing for class:

Students should submit Short Assignment 2 and report on their check-in with a BetaGov work team.

Assigned reading:

Begin reading *Citizen Science*.

Students will receive a compendium of short case studies.

### **Week 5. Citizen science—part 1**

Goals for week 5:

- a. Introduce a brief history of “citizen science” in promoting discovery.
- b. Students will review case studies of citizen science. These include: eBird, Quantum Moves, EyeWire, GoViral, and WeatherUnderground.
- c. Students will learn about the role of technology in citizen science.

Preparing for class:

Students should be prepared to provide a brief project update.

Assigned reading:

Assigned chapters from *Citizen Science*

Deming, J.C., O’Donnell, J.R., & Malone, C.J. (2012) “Scientific literacy: Resurrecting the Phoenix with thinking skills,” *Science Educator*, **21**(2):10–17.

Burke, A. (2011) “Games That solve real problems: Crowdsourcing biochemistry,” *Forbes*. [forbes.com/sites/teconomy/2011/10/27/games-that-solve-real-problems-crowdsourcing-biochemistry](http://forbes.com/sites/teconomy/2011/10/27/games-that-solve-real-problems-crowdsourcing-biochemistry)

### **Week 6. Citizen science—part 2**

Goals for week 6:

- a. Students will analyze the strengths and limitations of participation by citizens in scientific research.
- b. Students will review the risks of using data generated by citizen-scientists.
- c. Students will consider the sorts of error and bias that follow from (or mitigate) with citizen-generated data.

Assigned reading:

Complete *Citizen Science*.

Lehrer, J. (2010). “The truth wears off,” *The New Yorker*, December 13. [newyorker.com/magazine/2010/12/13/the-truth-wears-off](http://newyorker.com/magazine/2010/12/13/the-truth-wears-off)

## **Week 7. The psychology of decisionmaking**

Goals for week 7:

- a. Students will consider the sorts of error and bias that affect decisionmaking
- b. Students will participate in an in-class laboratory to underscore challenges in decisionmaking.
- c. Students will discuss the implication of these errors for decisionmaking and citizen science.

Assigned reading:

Chapters 10, 11, 12, 13, and 19 in Plous, S. (1993). *The Psychology of Judgement and Decisionmaking*, New York: McGraw-Hill.

## **Week 8. Data-driven problem identification**

Goals for week 8:

- a. Students will review a case study in data-driven problem identification from Mexico.
- b. Students will learn about the process that led to data-driven problem identification and about the rapid-cycle research that followed.
- c. Students will engage with the CNS mapping team in Mexico (via videoconference).

Assigned reading:

Students will receive a compendium of case-study materials.

## **Week 9. Project status updates and voices from the field**

Goals for week 9:

- a. Students will provide updates on their pilot projects and share experiences from the field.
- b. Students will receive feedback on their pilots.

Assigned reading:

There are no assigned readings. Students will prepare briefing notes on their projects.

## **Week 10. The nudge movement**

Goals for week 10.

- a. Students will hear from and meet with visitors from “nudge” teams.
- b. Students will discuss lessons from their own projects with nudge visitors

Assigned reading:

Thaler, R. & Sunstein, C.R. (2009) *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New York: Penguin.

## **Week 11. Quitting to succeed**

Goals for week 11.

- a. Students will learn the role of failure in success.
- b. Students will learn strategies for rapidly identifying failed strategies and for moving on.

Assigned reading:

Babineaux, R. & Krumboltz, J. (2013) *Fail Fast, Fail Often: How Losing Can Help You Win*. New York: TarcherPerigee.

## **Week 12. Technologies to make us smarter, safer, and healthier**

Goals for week 12.

- a. Introduce new technologies intended to make us smarter, safer, and healthier.
- b. Students will learn about the role of rapid-cycle learning in assessing the impacts of these new technologies.

Assigned reading:

Students will receive a compendium of case-study materials. Classroom visits from two companies providing tech solutions in public safety and education, including a virtual-reality demonstration.

### **Week 13. Communicating ideas—the trouble with research-to-practice**

Goals for week 13.

- a. Students will learn about issues involved in the research-to-practice divide.
- b. Students will learn the importance of communicating research findings to research-naïve audiences, and effective methods for doing so.
- c. Students will apply these lessons to communicating about their rapid-cycle pilot project.

Assigned reading:

Mallonee, S., Fowler, C., & Istre, G.R. (2006) "Bridging the gap between research and practice: A continuing challenge," *Injury Prevention*, **12**(6):357–359.

### **Week 14. Learning organizations**

Goals for week 14.

- a. Students will learn about common barriers to learning within government organizations and how these can be overcome.
- b. Students will hear from two leaders of government agencies who committed to rapid-cycle research and to leading institutions that learn.
- c. Students will learn about the processes these leaders used to make rapid learning the new norm within their agencies.

Assigned reading:

Hawken, A., & Farabee, D. *An Experiment in Experiments: BetaGov and the Potential of Citizen Science in the Public Sector* [forthcoming]. The manuscript will be distributed to students.

### **Week 15. Project reports—reflection from the field**

Final project reports. No reading assignment.