

# DPI-663: Tech & Innovation in Government

Spring 2017 | Fridays 1pm – 4pm | One Brattle Square, Room 401

## ABOUT THE COURSE

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### **Instructor:**

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### **Course Assistants:**

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### **Limited Enrollment & Applications:**

DPI-663 is a field course with limited enrollment. Students must apply and be accepted by the instructor before their petition to enroll will be accepted. See page 2 for details or [apply here](#).

### **Course Description:**

In the last five years digital services units have emerged as key players in government reform in the U.S. and abroad. The scope and ambition of these efforts vary, but they all leverage methodologies already common to private sector entrepreneurship -- an intense focus on understanding user needs, rapid prototyping and iteration, and the use of modern technologies.

Drawing on approaches pioneered by these units, this course seeks to equip students with a methodology and a mindset for driving change in 21st century government. Students will use lean startup principles and user-centered design methods to solve real problems for local and federal government clients.

These methods are best learned through practice. As such, this field class offers lectures on core concepts concurrently with client work. Students will be paired in teams of five and assigned a government client. Each team will scope their project/problem; conduct user research in the field; rapidly design, build and test lightweight prototypes; and, if relevant, create a plan to scale their product. Teams may also offer policy, operations, and strategy recommendations.

For more information on the course, including the spring 2016 presentations and blog posts from student teams, please see <http://www.innovategovernment.com/>.

## APPLYING TO THE COURSE

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### **Application Deadline:**

Applications are due by Midnight on Monday, January 16 (MLK Day). Accepted students will be notified by email and instructed to submit a Petition to Enroll.

### **Application Form:**

Interested students should apply via this Google Form: <https://goo.gl/forms/dzL4BAj5Clc1MiTE3>

### **About the Application:**

Permission of the instructor is required. To apply, students are required to submit a resume, a brief statement of interest, and links to an online presence (eg. Github, LinkedIn, Twitter, Medium). The instructor will then choose students based on demonstrated interest and preparation. Applications will also be used to form students teams that emphasize a diversity of skills, and to assign clients. *All students are encouraged to apply.*

### **Recommended Prerequisites :**

While there are no required prerequisites, students who have taken one or more of the following courses tend to excel in this course:

- HKS DPI 662 Digital Government (Professor David Eaves)
- HBS 1345. Design Thinking and Innovation (Professor Srikant Datar)
- Harvard College CS 50 Intro to Computer Science
- Harvard College CS 109 Data Science
- Harvard College CS 171 Visualization

## CLIENTS

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Clients change from year to year. **2017 Clients will be announced in early January** prior to the beginning of the course.

Clients consist of local, state, or federal government agencies in the U.S. Each client provides:

- A concrete problem related to the agency's core mission.
- Open access to information and employees at multiple levels, from the bottom to the top of the organization.
- Staff time, including a point person for the student group. This person will attend class in Cambridge, MA for client introductions (Friday, Feb 3) and "Demo Day" (Friday April 28).

Client travel: Students with local clients will be expected to travel to their offices as needed.

Spring 2016 clients were the City of Boston, New York City, the U.S. Department of Veteran Affairs; and the U.S. Department of Commerce (Census Bureau).

## CLASS POLICIES

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**Outside Commitments:** Students are expected to devote a significant amount of time to their projects (12-15 hours a week). **Students are expected to attend every class session, minimize outside class commitments, and make this class a top priority.** Taking this class while overloading, taking multiple client-based courses, or with an overly demanding schedule is not recommended. Do not apply to this class if you are also starting a company or nonprofit this semester, or have other substantial commitments.

**Laptops and Cellphones:** Expect to bring a laptop to class for co-working sessions. However, during lectures we ask that you refrain from using laptops and focus on the lecture. Cell phones are not permitted in class.

**Absences:** When you are absent, your team can't benefit from your participation and you lose out on co-working and lecture for that day. While **we expect students to be present for every class,** we will allow up to one absence during the semester. If you must be absent, you should inform the teaching team and your student team **at least two weeks in advance** and arrange beforehand with your student team to make up the work.

### **Assignments and Grading:**

- Final presentation -- 40% of grade
- Written assignments
  - Team artifacts & documentation -- 20% of grade
  - Team blog posts -- 20% of grade
  - Individual reflection paper -- 10% of grade
- Attendance and participation -- 10% of grade

## CLASS SCHEDULE:

**Shopping Days: January 19-20**

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### 1. Teams & Core Principles | Jan 27

Lecture: Course expectations, working in student teams & core principles

In Class Exercises:

- Norm setting & designating norm captain
- Setting learning objectives for each student
- Create **Team Launch Document**

Reading:

- Duhigg, Charles. What Google Learned From It's Quest to Build a Perfect Team. The New York Times Magazine. 2016.  
[http://www.nytimes.com/2016/02/28/magazine/what-google-learned-from-its-quest-to-build-the-perfect-team.html?\\_r=1](http://www.nytimes.com/2016/02/28/magazine/what-google-learned-from-its-quest-to-build-the-perfect-team.html?_r=1)
- Kahn, William. A Students Guide to Successful Project Teams. 2008. (Selected chapters)

### 2. Clients & Project Scoping | Feb 3

Lecture: Client introductions

In Class Exercises

- Co-working session with clients

Reading:

- Ideo.org. The Field Guide to Human-Centered Design. 2015. (Pages 17-25, Mindsets)
- Eisenmann, Thomas, Eric Ries, and Sarah Dillard. "[Hypothesis-Driven Entrepreneurship: The Lean Startup.](#)" Harvard Business School Background Note 812-095, December 2011.
- Client & problem description

### 3. User Research I: Problem Definition | Feb 10

Lecture: Framing your Design Challenge

In Class Exercises:

- Scope your project with client
- Complete **Framing your Design Challenge worksheet**

Reading:

- Ideo.org. The Field Guide to Human-Centered Design. 2015. (Pages 27-33, Methods)
- Sherwin, David. Five Step Process to Conducting User Research. Smashing Magazine. 2013. [www.smashingmagazine.com/2013/09/5-step-process-conducting-user-research/](http://www.smashingmagazine.com/2013/09/5-step-process-conducting-user-research/)
- Holdren, John. How to Avoid Common Pitfalls in Professional Writing. 2004.

### 4. User Research II: Methods | Feb 17

Lecture: Methods for Conducting User Research

In Class Exercises:

- Develop list of users to interview
- Develop draft **Research Plan**
- Create **User Interview Guide**

Reading:

- Ideo.org. The Field Guide to Human-Centered Design. 2015. (Pages 34-67, Methods)
- 18F Methods Cards: Discover section. <https://methods.18f.gov/>

### 5. Research Synthesis I | Feb 24

Lecture: Innovating in government & synthesizing your research and deriving insights

In Class Exercises (Optional):

- KJ Exercise
- Journey mapping
- Developing light-weight personas

Reading:

- UK Government Digital Service. Design Principles. <https://www.gov.uk/design-principles>
- US Digital Service. Playbook. <https://playbook.cio.gov/>

## 6. Insights to Prototypes | Mar 3

Lecture: Turning your insights into prototypes you can test

In Class Exercises:

- Magic wand brainstorm
- Million dollar brainstorm
- Rapid prototyping & testing with classmates

Reading:

- Knapp, Jake. How to Decide What Ideas to Prototype. Fast Company. 2013.  
<http://www.fastcodesign.com/1672929/how-to-decide-what-ideas-to-prototype>
- Knapp, Jake. A Lightning-Fast Way To Make A Digital Prototype. Fast Company. 2013.  
<http://www.fastcodesign.com/1672940/a-lightning-fast-way-to-make-a-digital-prototype>
- 18F Methods Cards: Decide section. <https://methods.18f.gov/>

## 7. Insights | Mar 10

Lecture: None

In Class Exercises:

- Insights Presentations
- Co-working sessions

Reading: None

*\*No Class- March 17 (Spring Break)\**

## 8. Data, Algorithms & Prototypes | Mar 24

Lecture: Algorithms and Government Data: Policy and Applications

In Class Exercises:

- Rapid prototyping workshop

Reading:

- Review week 7 readings

## 9. User Testing & Iteration | Mar 31

Lecture: Healthcare.gov: Testing & Iteration and When Products Fail

In Class Exercises:

- Co-working sessions

Reading:

- Brill, Steven. "CODE RED\_ Inside the nightmare launch of HealthCare.gov and the team that figured out how to fix it." TIME, Mar 10 2014.
- Christian, Brian. The A/B Test: Inside the Technology That's Changing the Rules of Business. Wired. 2012. [http://www.wired.com/2012/04/ff\\_abtesting/all/1](http://www.wired.com/2012/04/ff_abtesting/all/1)

## 10. Making Recommendations | Apr 7

Lecture: How to Make Recommendations that Get Implemented

In Class Exercises:

- Co-working sessions

Reading: None

## 11. Policy & Practice: Hacking the Bureaucracy | Apr 14

Lecture: Hacking the Bureaucracy: Red Laws and Blue Laws

In Class Exercises:

- Co-working sessions

Reading: None

## 12. Demo Day Prep | Apr 21

Lecture: Class Recap

In-Class Exercises:

Teams present final deliverables to the class and get feedback, with a focus on:

- Quality of insights about users
- Quality of product / prototype
- Quality and feasibility of recommendations for clients

Reading: None

## 13. Demo Day | Apr 28

*Team presentations*

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## ASSIGNMENT SCHEDULE:

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Week 1 (Jan 27)	--
Week 2 (Feb 3)	Team Launch Doc Due
Week 3 (Feb 10)	<i>Blog Post I (Intro) Due</i>
Week 4 (Feb 17)	Framing Your Design Challenge Due
Week 5 (Feb 24)	Research Plan & Interview Guide Due
Week 6 (Mar 3)	<i>Blog Post II (Research) Due</i>
Week 7 (Mar 10)	<b>Insights Deck Due</b>
<i>*Spring Break</i>	--
Week 8 (Mar 24)	<i>Blog Post III (Insights) Due</i>
Week 9 (Mar 31)	--
Week 10 (Apr 7)	--
Week 11 (Apr 14)	<i>Blog Post 4 (Prototypes &amp; Testing) Due</i>
Week 12 (Apr 21)	--
Week 13 (Apr 28)	<b>Final Presentation Deck Due (Apr 27)</b>
<i>*Finals (May 8)</i>	<i>Blog Post 5 (Recommendations) Due</i> Individual Reflection Papers Due