

# **Innovation In Society**

**Summer 2019**

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Meeting Hours: TBD

## **Course Description**

How does innovation affect us as a society? We often seem to think of innovation as inherently being a good thing for society, but is it really? At the core, what is innovation? In this course we will explore the theme of innovation and its' impact on society, from conception to global distribution. We will discuss the difference between invention and innovation on a macro and micro level and will look at different methods for innovating and channels for development - do these factors play into the innovations impact? Innovation can affect society in different ways depending on the stage of development/growth and location - we will discuss these differences and attempt to draw a conclusion on the nature of innovation.

We will also look at the different kind of impacts and effects innovation can create, from financial effects to social impacts across the globe. We will read case studies, discuss relevant current events, as well as watch/listen to media putting forth interesting theories or findings regarding innovation.

The class will conclude with an innovation incubator where students work individually and in a team to come up with and innovation, develop a prototype and lean business plan, and estimate the short and long-term impact of the innovation on a local vs. global scale.

## **Objectives**

The overarching goals of this course are for students to:

1. Develop an understanding of the different methods/kinds of innovation and understand how to use them as tools
2. Develop an understanding of the impacts of innovation on society, as well as how societal events impact innovation
3. Be comfortable communicating the different kinds of impacts innovation can have and be able to create/use examples of each as tools for estimating impact
4. Experiencing hands-on development of an innovation in both individual and team settings, collaborate in a fast paced, self-directed, teamsetting
5. Estimating short/long term impact of an innovation and developing a basic framework for measurement, deciding on metrics to measure

## Assignments

### Readings

“Good and Bad Innovation”, Geoff Mulgan

[https://media.nesta.org.uk/documents/good\\_and\\_bad\\_innovation\\_by\\_geoff\\_mulgan.pdf](https://media.nesta.org.uk/documents/good_and_bad_innovation_by_geoff_mulgan.pdf)

“Uber in the Economy” - EDR Group

<https://www.uber.com/newsroom/uber-in-the-economy/>

“Suicide Gets Taxi Drivers Talking” - New York Times

<https://www.nytimes.com/2018/10/02/nyregion/suicides-taxi-drivers-nyc.html>

“Technology and the Future of Work”- McKinsey & Co.

<https://www.mckinsey.com/featured-insights/employment-and-growth/technology-jobs-and-the-future-of-work>

“How Silicon Valley Hacked the Economy” - The Nation

<https://www.thenation.com/article/how-silicon-valley-hacked-the-economy/>

“Understanding Innovation”- Kenneth B. Kahn, Business Horizons

Volume 61, Issue 3, May–June 2018, Pages 453-460

“Innovation Measurement: Tracking the State of Innovation in the American Economy” Report for Secretary of Commerce by The Advisory Committee for Measuring Innovation in the 21st Century Economy, January 2008

“A multi-level perspective on innovation ecosystems for path-breaking innovation” Bob Walrave, Madis Talmar, Ksenia S. Podoyntsyna, A. Georges L. Romme, Geert P.J. Verbong, Technological Forecasting and Social Change, Volume 136, November 2018, Pages 103-113

“Measuring the impact of Innovation” The International Development Innovation Alliance (IDIA) , United Nations High Commissioner for Refugees, June 2017

“How much should society fuel the greed of innovators? On the relations between appropriability, opportunities and rates of innovation” G. Dosi, L. Marengo, C. Pasquali, Research Policy Volume 35, Issue 8, October 2006, Pages 1110-1121

*\* Some readings may change. Additional articles and case studies will be added, final reading list will be posted on canvas nearer to course dates*

**Response papers and discussion questions**

Class discussion will be a large part of participation, taking place daily. Response papers will be assigned weekly on the current topic of exploration.

**Weekly Quiz**

Pop-quizzes will happen once per week

**Podcast & Media**

TBD / *\*Final reading list will be posted on Canvas*

**Final Test**

The final test will cover sections from the material we cover. A study guide will be provided prior to the exam. The exam will have multiple choice, short & long answer questions.

**Individual Project**

Students are expected to complete a 1 day challenge project asking them to innovate, estimate impact, and present an innovative idea in 24 hours.

**Group Project**

Students will be grouped together to more thoroughly experience an innovation lab. Students will be tasked with innovating, building-out a plan and minimum viable product, and creating a basic framework through which they will estimate a set metric for impact (i.e. health impact) Groups will keep a growing document of their work, presenting it, along with anything else they have created, on the final day.

**Grading**

Class participation: 30% (includes APPROPRIATE in-class participation, response papers, discussion questions and posts on Canvas, and collaborating with group); Please note that you cannot get an A in the class if you do not contribute to class discussion on a regular basis. (We will discuss the meaning of appropriate in class.)

- In-class quizzes (pop-quiz): 5%
- Individual Project: 15%
- Group project presentation: 25%
- Final Text: 25%

**Accommodations**

Brown University is committed to full inclusion of all students. Please inform me early in the term if you have a disability or other conditions that might require accommodations or modification of any of these course procedures. You may speak with me after class or during office hours.

For more information, please contact Student and Employee Accessibility Services at 401-863-9588 or SEAS@brown.edu. Students in need of short-term academic advice or support can contact one of the deans in the Dean of the College office.

**Credit Hours**

TBA

**Class Topics:****Week 1: Innovation Overview**

What is innovation? Is innovation good or bad, or neither? (Reading + Lecture)

Case Study 1: Uber

Methods of Innovation (Lecture & Media)

Current events: How will innovation impact jobs? Is there a moral dilemma with gene editing? Is

Uber helping or hurting? Additional TBD (Reading & Discussion)

External factors on innovation: Intellectual Property Rights, Terrorism (Readings & Discussion)

**Week 2: Estimating Impact**

Measuring Innovation (Readings & Lecture)

Metrics to think about

Case Study 2: TBD

Can impact be accurately measured or predicted? (Discussion)

Estimating impact - creating a framework (Workshop & Guest Lecture)

Preparing to Innovate - individual project innovation lab (Lab)

**Week 3: Innovation & Entrepreneurship**

Understanding Immediate Impact / (Reading & Lecture)

Innovation Lab - develop and estimate impact with group-made framework (Lab)

Innovation Pitch & Presentation (Presentation)

Final Test

**Key concepts in the course:**

- What is innovation?
- Modes and methods for innovating
- Factors that impact innovation - how does innovation impact society? How does society impact innovation?
- Current events in innovation: moral dilemmas, uncertain impact, or promising frontiers?
- How to estimate impact and create a basic framework for measuring it
- Determining the correct metrics to measure
- Developing an innovation using learned methods for ideating and creating a framework for estimating impact