This course begins with an introduction to the economics of ideas and uses the economics of ideas to evaluate the origins of invention and discovery, innovation, entrepreneurship, and the diffusion of new technology. The focus throughout is on the microeconomic and institutional foundations for phenomena that have been studied mostly at an aggregate level. The course focuses on (a) the micro-foundations of the knowledge production function (including the role of creativity and the impact of science), (b) the impact of institutions and strategic interaction on the commercialization of new technology, and (c) the diffusion and welfare impact of ideas and technology. The course emphasizes how the unusual characteristics of ideas can result in social inefficiency, and how the microeconomic and institutional environment influences the gap between private and social welfare. The course includes a mixture of (and explicit comparisons between) theoretical and empirical research.

Requirements:

- Two group homework assignments (due October 17th and November 28th);
- Two individual “referee” reports (out of the working papers we have highlighted in red on the syllabus); this report will be due by 9pm the night before the class session for which they are listed as part of the readings. For example, if you choose to do a referee report on one of the potential referee papers from Class 2, it is due by 9pm on September 18th. To submit, please e-mail the TA.
- A succinct individual paper proposal, three to five pages, on a topic germane to the class, due during the last week of class (December 12th);

Administration:

- Readings, the current version of the syllabus, assignments, and class slides are available through Canvas;
- Please contact the TA for access to Canvas or other questions about course logistics;
• There are no “official” office hours; please feel free to make appointments with Scott or Pierre individually or together.
• The class will take place in person, except for a few sessions on zoom to accommodate an outside speaker.
## Schedule at a Glance

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<th>Class</th>
<th>Topic</th>
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<td>The Nature of Ideas and Innovation</td>
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<td>Class 3</td>
<td>Open Science as an Economic Institution</td>
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<td>Class 4</td>
<td>The Supply of Innovators</td>
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<td>Class 5</td>
<td>The US Patent System and Innovation Policy</td>
<td>October 10</td>
<td>Janet Freilich</td>
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<td>Class 6</td>
<td>Innovation and Climate Change</td>
<td>October 17</td>
<td>Jacob Moscona</td>
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<td>Class 7</td>
<td>Measuring Innovation and the Impact of Innovation Policy</td>
<td>October 24</td>
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<td>Halloween—No Class</td>
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<td>Class 9</td>
<td>Incentives for Innovators: Market-level Rewards</td>
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<td>Class 10</td>
<td>Innovation Policy</td>
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<td>Heidi Williams</td>
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<td>Class 11</td>
<td>Measuring the Returns to R&amp;D Investments</td>
<td>November 28</td>
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<td>Class 12</td>
<td>Measuring Entrepreneurship and the Impact of Entrepreneurship Policy</td>
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<td>Scott</td>
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<td>Class 13</td>
<td>The Economics of Ideas and Innovation Policy—Wrap-Up</td>
<td>December 12</td>
<td>Scott</td>
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Class 1  

Ideas, Innovation and Economic Growth

September 12


Supplementary Papers


Potential Referee Reports

Required Readings

Supplementary Papers
Class 3  Open Science as an Economic Institution  September 26

Potential Referee Reports

Required Readings

Broad Surveys
What is Science?

Science as a Social Institution

The Direction of Science


**Scientific Competition**


**Science and its Institutions**


The Relationship Between Science and Technology


Science in the Private Sector


Class 4 The Supply of Innovators October 3

Potential Referee Reports


Required Readings


Supplementary Papers
Who is (or Who Becomes) an Innovator?


Immigration


Superstars, Concavity and the Concatenation of Talent


Discrimination and Stratification


**Manpower Analysis' Sad Track Record**


Class 5  
**The US Patent System and Innovation Policy, Guest Lecture by Janet Freilich**  
October 10  

**Potential Referee Reports**


**Required Readings**

This lecture focuses on the relationship between innovation and climate change. Technological progress plays an important role both in climate change mitigation (i.e. reducing emissions and shifting away from dirty energy) and in climate change adaptation (i.e. keeping humanity resilient in the face of climatic extremes and global warming, which will continue over the 21st century even under the most optimistic projections for greenhouse gas emissions). The readings for this lecture highlight existing work on both types of innovation, as well as the interplay between the two. The goal of the lecture is to discuss existing theoretical and empirical work on this set of topics, as well as identify gaps in existing knowledge and areas for future research.

**Required Readings**


**Additional readings:**


Potential Referee Reports

PROBLEM SET #1 DUE!

Class 7 Measuring Innovation and the Impact of Innovation Policy and Institutions, Guest Lecture by Adam Jaffe October 24

Potential Referee Reports


Required Readings


Li, Danielle, and Leila Agha. 2015. "Big Names or Big Ideas: Do Peer-review Panels Select the Best Science Proposals?" Science 348(6233): 434-438.

**Supplementary Papers**

**Generalities**


**Connecting Phenomena to Measurement: Innovation Landscapes**


**The “Furious Fives”: Experiments, Regression/Matching, Diff-in-Diff, RDD, IV**


**Novel and Not So Novel Uses of Patent and Citation Data**


**Networks**


**Econometric Minutia**


Potential Referee Reports

Required Readings

Supplementary Papers


Class 9  
Incentives for Innovators: Market-Level Rewards  
November 14

Potential Referee Reports

Required Readings

**Supplementary Papers**

**Intellectual Property Rights**


**Prizes and Prize Design**


Economics of the Patent System


Patenting and Firm Behavior


Patenting and Antitrust

Secrecy
Class 10  
Zoom Guest Lecturer: Heidi Williams  


Class 11  
Measuring the Returns to R&D Investments  

Potential Referee Reports


Required Readings


Supplementary Papers


Azoulay & Stern, Economics of Ideas, Innovation, and Entrepreneurship, Fall 2023, Page 23—Last edited: 12/12/2023 2:03 PM


**Problem Set #2 Due!**
Class 12  Measuring Entrepreneurship and the Impact of Entrepreneurship Policy and Institutions

December 5

Required Readings

Supplementary Readings


Class 13  The Economics of Ideas and Innovation Policy  December 12

Required Readings


Supplementary Papers


