COURSE OVERVIEW AND OBJECTIVES

In the face of globalization and increasing international competition for jobs, capital, and talent, cities, regions and countries are focused on building their innovation capabilities and “ecosystems” to promote economic growth. A plethora of policies, programs and institutions have emerged to support entrepreneurship, startups, risk capital investment, industry clusters and translational research in an effort to enhance innovation capacity. This course engages students in both the theoretical underpinnings of innovation ecosystems, and an empirical examination of how and why they emerge (or conversely, why they might not), their composition, and how they impact the wider community. This course draws upon literature from economics, sociology, planning and management to build foundational knowledge; examine key components that constitute regional innovation systems such as networks, universities, entrepreneurship and industrial clusters; and engage in analysis of specific case studies in industries and regions from both the developed and developing world.

Throughout the course, we will examine the strengths and weaknesses of this approach. What role do regions play in fostering innovation – how do we think about regions relative to entrepreneurs, firms and universities? Does the model apply to all regions, and who benefits from such an approach from within the regional community? Regional innovation systems literature (RIS) suggests there is something systemic at work that can be acted upon and shaped through public and private intervention. We will examine whether we see signs of a system at work and if so, what this suggests for public policy.

The course will examine the topic of regional innovation systems through three dimensions. The first section of the course will review the theoretical underpinnings and key concepts that define regional innovation systems drawing upon various literatures to build a foundation for the rest of the course. In the second section of the course, we will examine in detail several components that constitute a regional innovation system such as networks, institutions including universities, and entrepreneurship. Third, the class will turn toward practical applications of the systems approach and study case studies from particular regions and from specific industries that lend themselves to regional innovation systems and policy analysis. This section will delve more deeply into policies and strategies that have emerged over the past several decades to promote innovation systems, as well as look at some of the broader challenges for RIS including increasing income inequality. Several guest speakers will be invited.
to join the class throughout the course and discuss their research or experience with regional innovation systems.

**CLASS REQUIREMENTS**

Students are expected to keep up with the weekly reading and to actively participate in class. This is not a lecture course but a seminar in which critical reading is intended to serve as a basis of weekly discussion.

Students will write 2-3 page reading responses weekly, in which three responses of the student’s choice will be expanded to four to five-page memos based on class readings. One 15-20 page paper based on a case study of their choosing (a particular regional economy or aspect of the innovation economy within a region, or comparison across regions) will constitute the course’s final project. For the final project, students are encouraged to use a dataset that will shed light on the dynamics of a region’s innovation ecosystem (e.g., patents, startups, industry cluster data, risk capital, publications, education-related data). Students will also lead one class discussion, and do a brief final presentation on their research paper at the end of the course.

Grades will be based on the following: 30% class participation; 30% writing based on class readings and 40% for the final paper and presentation.

**OVERVIEW OF COURSE SECTIONS AND READINGS**

**September 11: Initial Session**

The initial class session will provide an introduction and review the course objectives, content, readings, and assignments. Students will sign up to lead particular class discussions.

**Part I. Theoretical Foundations**

**September 18: Frameworks and Context**


September 25: Agglomeration Economies: Industrial Districts, Clusters, Cities and Regions


Further Reading:


October 2: Economic Growth, Regional Economies and Inequality


October 9: No Class. Columbus Day.

October 16: (Date to be Rescheduled) The Nature of Knowledge and Embeddedness


Further Reading:

October 23. Introduction to Innovation and Innovation Systems
Joseph Schumpeter (1942), Capitalism, Socialism and Democracy, pp. 62-83.


Jackson, Deborah (2011) “What is an Innovation Ecosystem?” National Science Foundation, pp 1-12.

Further Reading:

Part II. Key Components of Regional Innovation Ecosystems

**October 30th: Research and The Role of Universities**


Further Reading:


http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0179334

**Guest Speakers:** Professor Richard Lester, Associate Provost for International Activities, Former Chair, Department of Nuclear Science and Engineering; Founder and Faculty Director: MIT Industrial Performance Center (TBC) and Dr. Inez von Weiterhausen, Postdoc, IPC

**November 6th: Networks and Social Capital**


Further Reading:

**November 13th: Entrepreneurship**


Case Study: TBD

*Further Reading:*

**Guest Speaker: TBD**

**Part III. Regional Innovation Systems at Work: Policy Options and Approaches**

**November 20: The Case of Massachusetts and Inclusive Growth**


*Articles:*
Rocheleau, M. “Massachusetts has Sixth Highest Rate of Income Inequality”, *Boston Globe*, Sept. 20, 2016

Horowitz, E. “The Poor Fare Better in MA Even Though Inequality Abounds” *Boston Globe*, March 20, 2017
Guest Speaker: Katie Stebbins, Former Assistant Secretary of Innovation, Technology and Entrepreneurship, State of Massachusetts Office of Housing and Economic Development

November 27: Development, Innovation and Public Policy


Guest Speaker: TBD

December 4: Manufacturing and the Industrial Ecosystem


Further Reading:
Guest Speaker: Ira Moskowitz, Director, Advanced Manufacturing Programs, Massachusetts Tech Collaborative; Former VP for North American Operations, Analog Devices

December 11: Final Presentations and Wrap Up