COMPLEXITY & DEVELOPMENT

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Course Overview

This course has two objectives. Pivoted around big questions, the first objective is to provide a broad overview of the canonical literature in the political economy of development, including the good institutions/governance school, modernization theory, and historical institutionalism.

The second objective is to introduce dynamic, non-linear approaches to the study of development, focusing on these questions: How did development actually happen? In other words, how did some societies make the dual transition from poverty and backwardness and prosperity and modernity? What tools can we develop and apply to study non-linear, endogenous, and multi-dimensional processes of change? What are the underlying conditions and institutions that shape processes of adaptation? Why are some organizations and societies more adaptable than others?

We will explore the above questions through the paradigm of complexity (also known as “complex adaptive systems”) and its signature themes of mutual causality, fluid preferences, uncertainty, adaptation, coevolution, and so on. We will read literature from political science, economics, sociology, public policy, and complexity studies.

Assignments & Grades

You will be graded on three components: participation (15%), three semi-structured response papers (50%), and a final memo (35%).

Participation

Participation and punctuality is mandatory. I deduct two points from your final score for every unexcused absence.

Three semi-structured response papers

Sign up to write three semi-structured responses over the course of the semester. Your paper should be 2 to 3-pages, single-spaced and contain two parts: (a) Respond to any one or more questions I will provide in advance of class each week, and (b) share your reactions on and/or raise questions about the week’s readings in the second half of the paper. Or if you wish to write the entire paper on (a) only, that is fine too.
Final “ideas” memo

The final assignment is an “ideas” memo, which should be 5 pages long, single-spaced. In place of usual research papers, write a memo that outlines how you would incorporate ideas from the class—especially from complexity—to tackle a particular problem or question related to development. For doctoral students, think about how the themes of complexity motivate a research question and/or inspire new ways to conduct research. For policy students, think about how ideas from the course inform a particular policy issue or cause that you wish to pursue in your future career.

Your memo should do the following:
1) Identify a particular research question or problem → study something, not everything.
2) Discuss your motivation for pursuing this agenda.
3) Compare and discuss what it would be like if you choose to pursue this agenda from the conventional as compared to complexity perspective (In other words, what leverage do you get by privileging mutual causality, fluid preferences, uncertainty, adaptation, coevolution, etc., in your analyses? Do these themes motivate you to ask questions that you otherwise would not have asked? Do they push you to approach problems in ways that you otherwise would not have tried?)
4) Allow yourself some imagination and project the ways in which you may pursue your agenda.
5) In the conclusion, come back to reality and discuss the immediate, concrete step/s you will take to advance your goal.

Required books
Introduction
Course objectives; course structure; assignments

Select and share with class one piece of work that you think represents “box-breaking” research. This can be from any field: natural sciences, social sciences, or humanities.

Required

**Good institutions vs. geography as primary cause**

Required
Diamond, Jared M. (2005). *Guns, germs, and steel: the fates of human societies.* Prologue; Chap 2 (Australia), Chap 18 (collision with the West)


Supplemental
Diamond, Jared M. (2005). *Guns, germs, and steel.* Chap 4 (food production); Chap 14 (state formation); Chap 11 (on germs; my favorite chapter)


Acemoglu & Robinson. *Why Nations Fail.* Chap 2; Chap 3 (popular version of their rebuttal of geography thesis); Chap 5 (China); Chap 7 (Glorious Revolution)


**Growth as the cause of good institutions**

Required


**Supplemental**


**Does good governance lead to growth or vice versa?**

**Required** (read in order indicated below)


**Supplemental**


**Historical roots of development**

**Required**

Acemoglu & Robinson (2008). *Why Nations Fail*. Chap 9 (Colonialization), Chap 12 (Vicious Cycle); Chap 14 (Breaking mold)

Supplemental


Public policy turns adaptive: anything goes?

Required


Supplemental


**North’s big question: The process of economic change**

**Required**


**Supplemental**


**Development as a coevolutionary process**

**Required**

Yuen Yuen Ang (2016). *How China Escaped the Poverty Trap*. Cornell University Press. Intro; Chap 1; Chap 5; Chap 7


**Supplemental**


Mahoney, James, & Thelen, Kathleen. (2010). “A Theory of Gradual Institutional Change,” In *Explaining institutional change*


**Introduction to complexity**

**Required**


Miller, John H., & Page, Scott E. (2007). *Complex adaptive systems: an introduction to computational models of social life*. Part I; Chap 1; Chap 2

**Supplemental**
See also capsule review of *Hidden Order* by Francic Fukuyama (2016), Foreign Affairs

**Application: Evolution of Cooperation**

**Required**


**Supplemental**

Martin Nowak & Roger Highfield. (2012) *Super-Cooperators: Altruism, Evolution, and Why We Need Each Other to Succeed*

**Application: Self-organizing processes**

**Required**


**Supplemental**


**Adaptation as solution and problem**

**Required**


**Supplemental**

Application: Promoting Adaptation

Required

Watch documentary before class, A Lego Brickumentary (2014)

Supplemental

Zook, Matthew et al. (2010). Volunteered Geographic Information and Crowdsourcing Disaster Relief: A Case Study of the Haitian Earthquake. World Medical & Health Policy
Yale Management School, “Do Organizations Implement the Best Crowdsourced Ideas?”

Tools: Statistical Learning Methods

Required


Supplemental


Tools: Modeling & Evolutionary Game Theory

Required

Miller & Scott, Complex Adaptive Systems, Chapter 3 + 5 (computational modeling)
Lansing, Stephen. Perfect Order. Chapter 3 (on use of simulation model)


**Supplemental**
