POS 330 The Complexity of Politics

Locations and Times: Laird 007-- T/TH 1:15-3:00 am
Instructor Greg Marfleet, gmarfleet@carleton.edu
Office: Willis 406, x4116
Office hours **sign-up only using the link below** (to avoid congregation in the dept. lounge I won't be holding drop-in office hours)
In Person W 10:00-12:00 pm, F 11:00-1:00pm (20 minute slots, take two if you think you need more time)
Evening Zoom Office Hours: Thursday 8:00 to 9:00pm

Course Description

Theories of complexity and emergence attempt to explain how large-scale collective properties and characteristics of a system can arise from the behavior and attributes of component parts. This has obvious parallels with things like how economic actors generate markets, or survival-oriented organisms generate ecosystems. It might also apply to how security seeking states create global power balances or how political candidates adapt in a changing ideological or issue space.

This course explores the relevance of these concepts, studied mainly in physics and biology, for the social sciences and international relations.

Readings and seminar discussion topics may include conflict and cooperation in international and sub-national environments, electoral competition, cross-cultural contact and the transmission of cultural traits, group interactions, decision making and social networks.

Over the term we will explore agent-based modeling to discover emergent properties of social systems through computer simulations created using NetLogo software. A series of workshops will build the requisite skills to complete the programming project which constitutes the main graded assignment for the class.

This course is organized in a combination seminar/workshop format. Tuesday meetings will begin with a discussion of the listed readings. One or more students will also be asked to identify an article not on the syllabus that is of interest to them and outline the paper and model. We will also practice some NetLogo programming. On Thursday we will delve more deeply into a single model and explore code in an example.

Text Book / Reader / Software


You should download and install the latest Version of the NetLogo software before class (you do not need to provide email information unless you want to join the user email list)

Assignments and Grade Values

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Model/Article Short Presentation</td>
<td>10</td>
</tr>
<tr>
<td>Coding Lab Homework x7</td>
<td>35</td>
</tr>
<tr>
<td>Project Proposal</td>
<td>10</td>
</tr>
<tr>
<td>Working Model Presentation</td>
<td>10</td>
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<tr>
<td>Final Model</td>
<td>25</td>
</tr>
<tr>
<td>Attendance, Discussion Forum Participation, Engagement</td>
<td>10</td>
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Resources

Looking for ideas? Lit searching for prior papers or models? These are great sites to browse.

The Journal of Artificial Societies and Social Simulation

https://www.jasss.org/JASSS.html

CoMSES Net, the Network for Computational Modeling in Social and Ecological Sciences (a code repository with over 600 NetLogo models)

https://www.comses.net/codebases/?tags=NetLogo&page=1

Journal on Policy and Complex Systems

https://policyandcomplexsystems.wordpress.com/

The NetLogo Community Site and NetLogo References and Modeling Commons

https://ccl.northwestern.edu/netlogo/models/community/index.cgi

http://ccl.northwestern.edu/netlogo/references.shtml

http://modelingcommons.org/account/login

Policy Model & Article Short Presentation Choice (select one)

In the folder of Policy Articles and Models you will find published policy-centered papers using ABM methods and NetLogo code implementations.

You and your presentation partner will be responsible for reading the article, experimenting with the model and providing the class with a short presentation of about 15 minutes (plus 5 minutes for questions from the class) explaining the research.
These presentations will occur on Thursday each week at the start of class (before we start with coding activity)

**Week 1**
Tuesday: Introductions, Future Class Planning, What is ABM?

W. Strielkowski, E. Lisin and E. Welkins, "Intertemporal Model of Co-Existence of Two Rival Species: A Case of Vampires and Humans Co-Habitation," Modern Economy, V3 No7, 2012, pp. 826-831. {have fun with this but don't get caught up in the math -- unless you want to "shrug")

Thursday: NetLogo Coding Lab

**Week 2**
Tuesday: Inequality and Injustice


Thursday: NetLogo Coding Lab

**Week 3**
Tuesday: Civil Conflict and Insurgency


Thursday: NetLogo Coding Lab

**Week 4**
Tuesday: Culture and Identity


Thursday: NetLogo Coding Lab

**Week 5**
Tuesday: International Cooperation and Conflict


Thursday: NetLogo Coding Lab

**Week 6**
Tuesday: Elections and Public Opinion


Thursday: Proposal Workshop

**Week 7**
Tuesday: Norms, Cooperation and Self-interest


Thursday: NetLogo Coding Lab

**Week 8**
Tuesday: Networks and Choices


Thursday: NetLogo Coding Lab

**Week 9**
Tuesday: Working Model Presentations

Thursday: Working Model Presentations

**Week 10**

Tuesday [final class]: NetLogo Lab

**Exam Days:** Final Model with Documentation Tabs Due by the end of exams