Weekly outline

POSC 330: The Complexity of Politics

Monday & Wednesday: 1:50 to 3:35
Willis 114
Professor: Greg Marfleet
Willis 413
(507) 222-4116
Greg.Marfleet@carleton.edu

Office Hours: T, Th 12:00-2:30 and F 2:00-3:30 and by appointment Friday.

Theories of complexity and emergence relate to how large-scale collective properties and characteristics of a system can arise from the behavior and attributes of component parts. This course explores the relevance of these concepts, studied mainly in physics and biology, for the social sciences.

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, models of group interactions and decision making and social networks.

Over the term we will experientially 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. Monday meetings will begin with a discussion of the listed readings. Students will be assigned roles as discussants and will be asked to generate 3 or 4 discussion questions per reading. For the day of the week we will shift our focus to NetLogo programming and we will discuss assignments that are ‘in progress’ and you can raise any questions or problems you are having. I will arrange to hold these sessions in a multi-user computer lab to facilitate group brainstorming and “on the fly” code revisions.

Books


Readings

All Readings are available in pdf, doc, or html format in the COURSES/Course Materials folder
Netlogo Modelling Software:

- Find it Here
- Or Check out the Course Materials Folder

Grading Scheme

<table>
<thead>
<tr>
<th>Component</th>
<th>Pts</th>
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<tbody>
<tr>
<td>Participation in Seminar (includes discussion question prep)</td>
<td>20</td>
</tr>
<tr>
<td>Workshop Assignments</td>
<td>35</td>
</tr>
<tr>
<td>Model Proposal Paper</td>
<td>20</td>
</tr>
<tr>
<td>Final Project</td>
<td>25</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
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News forum ➔ Add a resource... Add an activity...

September 12 - September 18

Complexity; An IR centered Introduction

Monday
- Course introduction and in-class exercises

Wednesday
- Miller and Page, CAS Chapters 1 & 2

Workshop #1 ➔ Add a resource... Add an activity...

September 19 - September 25

Agent Based Models, Complex Adaptive Systems and Emergence

Monday
- Miller and Page, CAS, Chapter 3 & 4 (see the Game of Life Link)
- Joshua M. Epstein. 2008. Why Model? Journal of Artificial Societies and Social Simulation vol. 11, no. 4 1
- (In class exploration of the Segregation and Sugar Scape Models netlogo models in the models library, play with the Game of Life)

Wednesday
**Course: The Complexity of Politics (posc330-00-f10)**

**September 26 - October 2**

### Evolving and Optimizing Agents

**Monday**
- Miller and Page Chapter 5 & 6
  (In class exploration of the El Farol bar model)

### Workshop #4
- Miller and Page Chapter 7 & 10
- Bednar, Jenna and Scott Page, “Game(s) Theory and Culture.” see Jenna
  Bednar’s web site http://www-personal.umich.edu/~jbednar
dilemma“ JEBO. 29:87-112
  (In class exploration of the spatial PD Moore Machine Model)

**October 3 - October 9**

### Computer Simulations of World Politics

**Monday**
  politics among Hexagons” in Karl Deutsch, Bruno Fritsch, Helio Jaguaribe and
  Andrei S. Markovits Problems of World Modeling: Political and Social
  Implications. Ballinger: Cambridge, MA.
  Simulation of Balancing in an anarchic world“. International Studies Quarterly
  Sandpiles“ American Political Science Review. 97, 1:135-150
- Lars-Erik Cederman. 2001. Modeling the Democratic Peace as a Kantian

**Wednesday**
- Simon, Marc and Harvey Starr. 1996. “Extraction, Allocation and the Rise and
  Decline of States: A simulation analysis of two-level security management”
  Journal of Conflict Resolution 40, 2: 272-297.
  (alliances)
  (empires)
- Miller and Page Chapter 8

**October 10 - October 16**
Monday - Modeling Societies in Conflict

Wednesday
- Proposal Workshop: Produce a short draft of 2-3 pages that outlines up to 3 possible model ideas you have. Describe each model (keep it brief -- no more than two or so paragraphs each) and identify what question you are interested in exploring, who the agents are and how might they behave, who or what might they interact with and what outcomes you could look for. Don't worry excessively about codeability (yet).

This draft should accompany you to class on WEDNESDAY. You will be expected to discuss your model ideas. Your preparedness for this exercise will be noted and reflected in your participation grade.

Workshop #5
October 17 - October 23

Monday - Mid Term Break

Wednesday - Emergent Norms and Social Movements
- Miller and Page Chapter 9

Model Proposal Paper
October 24 - October 30

Monday Guerrillas and Insurgency
Social Processes, Models, and Mechanisms.


**Wednesday Social Networks and Terrorism**


**October 31 - November 6**

**Monday Political Institutions and Elections**


**Wednesday Identity and Nationalism**

- **Bhavani, R.** 2003. “Adaptive Agents, Political Institutions and Civic Traditions in Modern Italy.” *Journal of Artificial Societies and Social Simulation* vol. 6, no. 4.
- **Miller and Page Chapter 11 and 12**

**November 7 - November 13**

**Monday**

Project Presentations (group1)

**Wednesday**

Project Presentations (group 2)

**November 14 - November 20**
Monday

Project Presentations (group 3)

Wednesday

Project Presentations (group 4)

November 21 - November 27

- FINAL PROJECT DUE - 5PM LAST DAY OF EXAMS
- Participation