At least since the behavioral revolution in political science, most political analyses are based on the attributes of political actors in the system being studied. In recent years, rapid advances in graph theory and network analysis have expanded the tools and concepts available to understand the systematic relationships between units, which may be more critical to the performance of a system than the particular attributes of the units. Despite the conventional wisdom in political science that relationships are important (old-boy networks, iron triangle, trust…), network analysis has yet to establish a place among the important theoretical and methodological approaches in our journals.

This course will explore the application of network analysis to political science issues in general and to collective action problems in particular. There is too much material to survey and too little to indicate what is directly relevant to political science, so we will select a few promising concepts and approaches from several disciplines and work with them intensively to see what they can tell us.

To provide a common framework, the class project will focus the network-related issues raised by a NSF-funded study of estuaries. The issues are developed in three papers to be read in the first week, particularly the 2003 AJPS (47:143-158) article “Building Consensual Institutions: Networks and the National Estuary Program”. We will reanalyze the data from that article plus two additional surveys, using tools we will learn from network analysis to verify and extend the simple analyses in that article. In addition, we will learn and use computer simulations and agent-based modeling to clarify the theoretical issues linking network analysis with collective action problems, and will apply the tools and concepts to the specific issues and data from the estuary program.

As an advanced research seminar, this course is intended to be a hands-on workshop in which students take considerable initiative in designing and implementing their own research projects. We will meet regularly for the first 4-6 weeks to survey a common set of readings and work on the class project, based on the estuary data. The readings during this period will be very intense to get us all up to speed, and will include conceptual, empirical, and agent-based modeling approaches to network analysis. We will also be using various software programs to analyze the estuary data as a basis for our theoretical discussions. My assumption is that none of you are familiar with any aspects of network analysis, but that all of you are familiar with the collective action perspective.

During our intensive exposure to the literature and tools of network analysis, students will also be developing their own specialized reading lists and proposals for their own projects.
Some students may focus on one aspect of the class project, others may work on the Florida Water Survey that was initiated this summer, and still others may be working on their dissertation proposal in areas unrelated to water governance. The last half of the semester will be devoted to individual meetings as well as class discussions and presentations relevant to these projects.

Requirements:
In the first half of the semester students are required to complete weekly assignments and contribute each week to the discussion and development of the class project. In the second half, students will be required to present a short lecture on the theoretical basis of their projects and a final presentation of the project. Students will maintain a work log throughout the semester (see Axelrod 1997, pp. 199-201.) The specific requirements for the student’s final paper will depend on what is being undertaken—a small, completed project is expected, but a proposal for dissertation research or larger project may be an option. Each student will develop a one-page research proposal outline and annotated research bibliography (Due Sept 29), a 3-page proposal (due Oct 13), a mini-lecture (presented after Oct 6), and a final paper (Due Dec 8).

Please let me know at the beginning of the semester if you anticipate any concerns that would require special arrangements for you.

Grades:
Participation in class and the class project will count for 40% of the grade. To emphasize the spirit of collegial research involved in this workshop, part of the class participation grade will reflect the student’s contribution to the development of other students’ research. The student’s individual project will count for the remaining 60% of the grade. There will be no tests, and the individual project grade will be a single grade based on all the work on the project.

Readings:
The reference list below is a starter bibliography for you to explore as the basis for developing your specialized project bibliography. Some of the required readings listed in the discussion schedule will be available on the class blackboard site https://campus.fsu.edu/webapps/login, and are indicated by BB.

Discussion Schedule

I. Introduction: UCINET and Estuary Networks 
   Aug. 25

II. Network Structure: Sociological perspectives and network measures 
   Sept.8
   a. Required: Begin with Burt 1991 p. 1-15., then Monge and Contractor Ch 2 (BB), then skim Scott 1999 and focus on measures you choose to estimate in UCINET with your estuary data. (Read handout of work logs in Axelrod 1997 p. 199-201 (BB))
   b. Recommended: Knoke 1998, Wasserman and Faust 1994 (This is the best handbook for technical issues of measurement and statistics)

III. Network Structure: Clustering, path length, and graph theory 
    Sept.15
b. Recommended Newman, Watts 2002

IV. Network Structure: Weak vs strong ties, transmission vs trust Sept. 15

V. Network Simulation: Agent-based models Sept. 22
a. Required: Monge and Contractor ch 4 (BB, see also Blanche website at http://www.spcomm.uiuc.edu/Projects/TECLAB/BLANCHE/pages/); Axelrod 1997 Intro, ch 1, 7, skim other chapters; Macy and Skvoretz 1998.

VI. Stability and Efficiency: The Economic Perspectives: Sept. 29
a. Readings—Jackson 2003 (see references for recommended readings).

VII. Political Perspectives: Policy Networks, Measures of Power Oct. 6

VIII. Remaining class readings will be determined by mini-lectures and individual projects

IX. Presentations Nov 24, Dec 1.

Required and recommended readings


Emirbayer, Mustafa and Jeff Goodwin. 1994. Network Analysis, Culture, and the Problem of Agency. *AJS* 99(6) 1411-1454. (early survey concluding the need to combine social structure and cultural analysis to explain historical evolution of networks.)


Kohlman, Miller and Page.


Tassier, Troy. see articles at [www.umich.edu/~ttassier--](http://www.umich.edu/~ttassier--) for network simulation and labor markets.


