

INR 4931: Political Network Analysis

University of Florida

Syllabus: Spring 2023

Instructor: Dr. Drew Rosenberg
Office: 210 Anderson Hall
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Class location: 0134 Anderson Hall
Class time: Tu, 09:35–10:25
Th, 08:30–10:25
Office hours: W, 12:00–15:00

Schedule a meeting with me: <https://calendly.com/asrosenberg>.

Course Description

Networks are ubiquitous in politics. Countries are linked in trade and alliance networks. Legislators are tied in co-sponsorship networks. Rebel groups are connected in information networks. In this class, we will not only study the theory underlying these networks, but we will also analyze them. In so doing, we will learn to apply the multi-disciplinary field of network analysis to important political science applications.

This course is an introduction to network analysis in political science. There are no formal prerequisites; we will start with the basics, but some background in data analysis will be helpful. Network analysis is a relatively new field, so you will need to be ready and willing to learn some new concepts that initially seem far afield from what you've studied in previous political science classes. By the end of the semester, you will be able to analyze and interpret interdependent phenomena using these concepts and techniques.

We will have two class meetings per week. The first meeting will cover a conceptual topic. In the second meeting, you will get hands-on experience applying that topic to real-world data.

Course Goals:

1. Students will learn the substantive and theoretical framework for social network analysis and (some of) the methodological tools that we can use to conduct network research.

Expected Learning Outcomes:

- Know the major theoretical ideas on which network research is based.
- Collect and organize social network data.
- Analyze and interpret social network data.

Course Materials:

1. All required readings will be posted online. *You do not need to purchase any books.*
2. A laptop computer with R and R Studio installed. I will show you how to install R and R Studio in class.

Assignments:

1. **Class Participation** (10% of Overall Grade) To earn points for class participation, students can take part in class discussion during both lectures and labs. To receive full points in this category, students should expect to participate in class at least once per week. However, I have a very broad conception of participation that includes active listening, asking questions of one another (including “what do you mean?”), reading relevant passages aloud, helping peers find correct pages, explaining why you agree or disagree with someone else, taking detailed notes, and engaging in and facilitating discussion. Everyone must experiment with a variety of forms, rather than always playing the same role!

I understand that some people are nervous about speaking in public, but I still expect you to challenge yourself to do so.

2. **Group Labs** (15% of Overall Grade) Group work is structured small group interaction for problem-solving. Research demonstrates that this works better than lecture for developing students’ higher-level reasoning, increasing comprehension, and fostering relationships. Explaining answers, restating information, and formulating questions in your own words engage critical thinking faculties and embed information and insights in memory. Accordingly, you will complete several group activities with your peers throughout the term. These labs will take place during our Thursday sessions.
3. **Short Assignments** (35% of Overall Grade) Short assignments are intended to clarify course material, offer practice in applying course concepts, and facilitate discussion. The assignment grade will include three problem sets and two discussion papers, all to be submitted on Canvas. You may write one discussion paper for any class day that has readings up to and including 3/9/22. For a discussion paper, craft two questions that could be posed to the class to kick off an interesting discussion related to the day’s reading. For each question, offer one potential answer. Keep the length of each discussion paper to 2 pages or less, double-spaced. You may submit up to 3 papers and I will drop your lowest score.
4. **Final Paper Prospectus** (5% of Overall Grade) A memo (up to 4 pages, double spaced) proposing the topic and plan for the final research project, due on Canvas by 11:59pm on 4/2/22.
5. **Final Paper** (35% of Overall Grade) The final paper should be a research proposal for a project that uses social network theory and analysis. The paper should be 12–15 pages, double-spaced, and it is due on Canvas on the last day of class (4/25/22).

The paper should briefly introduce your topic (1-2 pages), explain the theoretical background you base your research on (4-5 pages), and describe the data collection methods you propose, the analytical methods and tools you would use, as well as what hypotheses you would test. It is important to note that you do not have to actually complete the research you propose. However, I highly recommend that you propose research that is feasible.

NB: All written work for this course must be original work that has not been previously or simultaneously used for another course, unless it is previously approved.

Summary of most important dates

- JANUARY 26: Problem Set 1 due
- FEBRUARY 16: Problem Set 2 due
- MARCH 9: Problem Set 3 due
- MARCH 9: Deadline for response papers
- APRIL 2: Prospectus due
- APRIL 25: Final paper due

Grading

Class Participation	10%		A	93–100%	A–	90–92%	
Group Labs	15%	B+	87–89%	B	83–86%	B–	80–82%
Short Assignments	35%	C+	77–79%	C	73–76%	C–	70–72%
Final Paper Prospectus	5%	D+	67–69%	D	63–66%	D–	60–62%
Final Paper	35%	E	< 60%				

Policies and procedures

Attendance

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Communication and logistics

Outside of class, the primary method of communication will be email. *Your University issued email will be used, so please be sure that you have access to that account and that you check it regularly.* I will try to answer any emails within 24 hours during the week, and 48 hours over the weekend. Thus, you should always prepare to write to me well in advance

if you have questions about the course. I will make it a priority to respond as quickly as possible to emergencies and other extreme issues. As always, formal communication models are preferred. I also expect you to use respectful, professional language, as well as proper grammar, spelling, and syntax. In addition, I hold two hours of office hours per week, but you may arrange a meeting outside of those hours if you are unavailable during this time. Please make use of office hours, as that is the time I allocate to be 100% available to you. If you have any questions or are having difficulty completing course requirements, please come see me as soon as possible.

Office Hours Scheduling

Like most professors, I will hold regular office hours during the term. My office hours this term are from 12:00 to 15:00 on Wednesdays. However, rather than just showing up, I encourage you to make use of the meeting scheduling app, Calendly, that I host on my website: <https://calendly.com/asrosenberg>. You can use this app to book meetings with me during my office hours or select other times throughout the week, which will vary week-to-week during the term. If you use this app, you will not risk showing up to office hours, only to wait around and not have time to meet with me!

Accommodations

I encourage you to begin assignments well ahead of time, as I am aware of the heavy workload you will be facing with other courses. Please be aware that I will not make any concessions regarding workload (such as dispensing when you miss class or excusing you from having done assignments). You are responsible for distributing your time according to your obligations every week. I am, however, well aware of the potential negative effect of exogenous factors on your learning or the possibility that you may be facing a tough time or an illness. I will require written confirmation from the counsellor or your physician to engage in dispensation and accommodation, but I will be more than happy to help in any way I can, within reasonable limits. Specific policies are below.

Assignment dispensation policy

Assignments and take-home exams must be submitted *on the day they are due*. If a student is unable to complete an assignment, they will be allowed to turn it in late only if the absence is due to a *documented* medical, family, or similar serious emergency, observance of religious holy days (which requires written notification to the instructor at least 14 days prior to the due date), or properly documented University-sponsored planned activities. *Incomplete assignments or exams in all other cases will result in a score of zero*. If you become aware that you will not be able to complete an assignment or final project ahead of time, please contact the instructor and seek permission for an extension as soon as possible.

Grade disputes

Grade disputes will be considered only if they adhere to this policy. Grade disputes must be made in writing (TYPED!). You must wait at least 2 full days after you receive your grade to submit a grade dispute (“cooling off period”); you may wait no more than 2 weeks after you receive your grade to submit a dispute. Your written dispute must contain a documented logic for why you believe your answer for each disputed item was incorrectly marked—you must cite specific passages in the texts and/or lectures and explain why you thought they applied to the item in question. The instructor will then review your dispute and issue a decision within one week. Failure to comply with this procedure will result in forfeiture of your ability to dispute your grade.

Grade adjustment policy

I do not tolerate emails asking me to round up grades or “find points” that otherwise do not exist. When you ask me to do either of these things, particularly at the end of the term, you are putting me in a position where I feel pressure to treat you differently from your colleagues. The policies above are designed to eliminate ambiguity in this regard. In addition, I have two policies on rounding: 1) I do not round on individual assignments, and 2) I round all final grades to the *nearest tenth*. For example, if you finish the term with a 79.88% in the course, I will round the grade to 79.9%. This policy is not an attempt to be mean. On the contrary, my goal is to hold all students in equal standing.

Technology policy

I do not restrict the use of laptops or tablets in this course. However, please note that improper usage or distraction *will* lead to a lower participation grade. In extreme cases, I reserve the right to consider you absent. In addition, I strongly recommend all students take notes by hand. I make this recommendation for two reasons.

1. Note-taking is not stenography. The purpose of note-taking is to record all *relevant* information, not all information.
2. Recent studies have shown that students who use laptops and other mobile devices perform worse on exams (see, [this article](#).)

Academic misconduct

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honorcode/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct

to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Disability services

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Class Recording Policy

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Health and Wellness Resources

- U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352-392- 1575 so that a team member can reach out.
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

- Sexual Assault Recovery Services (SARS) Student Health Care Center, 392-1161. University Police Department, 392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu>

Online Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Course Overview and Schedule:

Week 01, 01/10 & 01/12: Course Introduction

Tuesday: What are networks?

Thursday: Installing R

- Read the R handout posted on Canvas.

Week 02, 01/17 & 01/19: Networks in the Social Sciences

Tuesday

- Amelia Hoover Green, “How to Read Political Science: A Guide in Four Steps.”
- Optional: watch [How to Read Journal Articles](#).
- Stephen P. Borgatti et al. 2009. “Network Analysis in the Social Sciences.” *Science* 323 (5916): 892–895.

Thursday: Intro to R I

- Elena Llaudet and Kosuke Imai. 2022. *Data Analysis for Social Science*. Princeton: Princeton University Press, Ch. 1 (posted on Canvas).

Response Paper Question: Does it matter if political network analysis is just descriptive?

Week 03, 01/24 & 01/26: Types of Networks: Local, One-mode, Two-mode

Tuesday

- Miller McPherson, Lynn Smith-Lovin, and Matthew E. Brashears. 2006. “Social Isolation in America: Changes in Core Discussion Networks over Two Decades.” *American Sociological Review* 71 (3): 353–375.

Thursday: Intro to R II

- Matthew O. Jackson. 2010. *Social and Economic Networks*. Princeton: Princeton University Press, Chapter 2 (posted on Canvas).

- **Problem Set 1 due**

Response Paper Question: What, if any, are the political implications of McPherson, Smith-Lovin, and Brashears (2006)?

Week 04, 01/31 & 02/02: Triads, Balance, Hierarchy

Tuesday

- Lorien Jasny, Joseph Waggle, and Dana R. Fisher. 2015. “An Empirical Examination of Echo Chambers in US Climate Policy Networks.” *Nature Climate Change* 5 (8): 782–786.

Thursday: Intro to R III

- Luke (2015), Chapter 1–2 and Skim 3 (posted on Canvas).

Response Paper Question: What makes triadic closure so pernicious? How would you advise a policymaker who wants to reduce or eliminate echo chambers?

Week 05, 02/07 & 02/09: Centrality, Power, and Inequality

Tuesday

- Patrick R. Miller et al. 2015. “Talking Politics on Facebook: Network Centrality and Political Discussion Practices in Social Media.” *Political Research Quarterly* 68 (2): 377–391.

Thursday: Centrality Lab

- Luke (2015), Chapter 7 (posted on Canvas).

Response Paper Question: Does popularity affect influence? How might Miller et al. (2015)’s results change if they used a different measure of centrality?

Week 06, 02/14 & 02/16: It’s a Small World

Tuesday

- Stanley Milgram. 1967. “The Small World Problem.” *Psychology Today* 2 (1): 60–67.

Thursday: Small World Lab

- **Problem Set 2 due**

Response Paper Question: The Small World Effect is a cute finding, but it doesn’t have any political implications in 2023. Discuss.

Week 07, 02/21 & 02/23: Groups and Communities

Tuesday

- Yan Zhang et al. 2008. “Community Structure in Congressional Cosponsorship Networks.” *Physica A: Statistical Mechanics and its Applications* 387 (7): 1705–1712.

Thursday: Groups and Cliques Lab

- Luke (2015), Chapter 8 (posted on Canvas).

Response Paper Question: Does network analysis help us learn anything new about polarization in the United States? If not, why not? If so, how?

Week 08, 02/28 & 03/02: Homophily and Influence

Tuesday

- Daniel DellaPosta, Yongren Shi, and Michael Macy. 2015. “Why do Liberals Drink Lattes?” *American Journal of Sociology* 120 (5): 1473–1511.

Thursday: Homophily Lab

Response Paper Question: Can political homophily be a good thing for society?

Week 09, 03/07 & 03/09: Categories and Positions

Tuesday

- John F. Padgett and Christopher K. Ansell. 1993. “Robust Action and the Rise of the Medici, 1400-1434.” *American Journal of Sociology* 98 (6): 1259–1319.

Thursday: Bridges and Structural Holes Lab

- **Problem Set 3 due**
- **Last week to turn in response papers**

Response Paper Question: How does the concept of a structural hole help us understand the rise of right-wing populism?

Week 10, 03/14 & 03/16: No Class. Spring Break!**Week 11, 03/21 & 03/23:** Network Visualization

Tuesday: A crash course on visualization

Thursday: Network Viz. Lab

- Luke (2015), Chapter 4–5 (posted on Canvas).

Week 12, 03/28 & 03/30: Networks and Culture

Tuesday

- Delia Baldassarri and Amir Goldberg. 2014. “Neither Ideologues nor Agnostics: Alternative Voters’ Belief System in an Age of Partisan Politics.” *American Journal of Sociology* 120 (1): 45–95.

Thursday: Affiliation Network Lab

- Luke (2015), Chapter 9 (posted on Canvas).

Week 13, 04/04 & 04/06: Dynamics and Diffusion I

Tuesday

- Mark S. Granovetter. 1973. “The Strength of Weak Ties.” *American Journal of Sociology* 78 (6): 1360–1380.

Thursday: Diffusion Lab

- **Paper Prospectus due 4/2/23 at 11:59 pm**

Week 14, 04/11 & 04/13: Dynamics and Diffusion II

Tuesday

- Sandra González-Bailón and Ning Wang. 2016. “Networked Discontent: The Anatomy of Protest Campaigns in Social Media.” *Social Networks* 44:95–104.

Thursday: Semantic Network Analysis Lab

Week 15, 04/18 & 04/20: Learning in Networks

Tuesday

- Eric Arias et al. 2019. “Information Provision, Voter Coordination, and Electoral Accountability: Evidence from Mexican Social Networks.” *American Political Science Review* 113 (2): 475–498.

Thursday: **No Class****Week 16, 04/25 & 04/27:** Conclusion

Tuesday: Flex Day