Over the last few decades there has been an enormous increase in the attention paid to social networks as key determinants of many elements of social life, including motivations, social mobility, group organization and mobilization, resource distributions, decision-making, patterns of innovation, and the organization of belief systems. Some of the emphasis on networks is cosmetic and/or metaphorical, but a lot of it is substantive and empirical. Both metaphorical and substantive applications of the term network can be instructive. In its most radical formulations, the study of social networks vies to become a kind of fundamental theory of social organization. In this respect it dovetails with the development over the last decade of a theory of networks as the constitutive material of the physical, biological, technological, and economic worlds.

Together we will have four main goals pertaining to social network analysis in this course. First, we will consider (in a non-technical way) the emerging science of networks writ large (Barabasi, Watts, Strogatz, Newman). Second, we will consider theoretical justifications for the study of networks and key concepts used in the field, using classical sociological formulations of these concepts (e.g., Nadel, Simmel, Bott) and more recent statements (e.g., Wellman, Breiger, Emirbayer, Watts, White). This will involve thinking about processes and mechanisms of network formation, organization, and development that may be unique to the social world. This will also involve examining the differences between interactionist and structuralist approaches to networks. The former looks at concrete relations as determinants of outcomes, focusing on topics like balance, influence, diffusion, cohesion, centrality, cliques and small worlds. The latter regards patterns of structural positions as key and uses concepts like structural equivalence, roles, blockmodelling, brokerage, structural holes, and clustering to discern how networks matter.

Thirdly, together we will explore methods and computer applications for the quantitative analysis of social networks. Specifically, we will become acquainted with UCINET, Pajek, and some procedures available in SPSS or STATA. This is the practicum component of the course. For this element of the course, I can provide you
with data, but if you have some of your own, that would be great! Hopefully we can arrange to spend some lab time together to get accustomed to working with networks tools.

Fourth, we will sample from the immense volume of empirical work that adopts a networks perspective in one form or another, including work on small groups, elites, social movements, immigration, formal organizations, markets, industries, cultural repertoires, and large-scale historical transformation.

We will follow a discussion format as much as possible, but often I will begin class with a mini-lecture on some of the key ideas and arguments. When we do more substantive readings, I hope I can organize it so that students will rotate through responsibility for co-leading the class. At the end of the semester, you will submit a 15-20 page paper. This will be: 1) your own original research, taking the form of a finished empirical paper using network data (most preferred, but also most difficult); 2) a coherent secondary analysis of a dataset you studied in connection with the course; OR 3) a detailed critical review of a body of literature in the field. I can provide some guidance in selecting such a body of literature to review.

**Required Texts**

The two required books for this course have been ordered through the Livingston campus bookstore. They are:


In addition, there will be MANY readings drawn from mainstream sociological articles, as indicated below. These I expect you will obtain through JSTOR, but I could make many of them available as well in a packet for purchase if there is a demand. Some required materials that are not in JSTOR I will put up on my website in .pdf format.

**Schedule of Classes**

**Week 1 (9/11)**

Introduction to the Course

No assigned reading; maybe some in-class exercises

**Week 2 (9/18)**

Networks Everywhere: A Brief Overview of the General Science of Networks

Read: Albert-László Barabási, *Linked: The New Science of Networks*, entire (this is quite an accessible read; do as much as you can)
Other related materials, the first several being quite technical:

Duncan J. Watts, Small Worlds: The Dynamics of Networks Between Order and Randomness (Princeton, 1999)

Week 3 (9/25) Network Analysis as a Foundational Sociological Paradigm


Mustafa Emirbayer, “Manifesto for a Relational Sociology,” American Journal of Sociology 103,2:281-317 [JSTOR]

Wasserman and Faust, pp. 1-27

Other useful and/or foundational materials:

Ronald S. Burt, Toward a Structural Theory of Action (Academic Press, 1982), chapters 1 and 9
Harrison C. White, Identity and Control (Princeton, 1992)
Peter Monge and Noshir Contractor, Theories of Communication in Networks (Oxford, 2003)
Jeremy Boissevain, Friends of Friends: Networks, Manipulators, and Coalitions, especially chapter 1
Claude Levi-Strauss, “Social Structure,” in his Structural Anthropology, chapter 15
Week 4 (10/2) Types of Networks and Ways of Representing Them

Read: Wasserman and Faust, pp. 28-59(or 66), 69-166, 291-344

A. Ego-Centered Networks


B. One-Mode Networks, Single and Multiple Types of Ties


C. Collective Actors as Nodes


D. Directed versus Undirected Ties

See Wasserman and Faust pages as noted above, especially pp. 121ff.

E. Two-Mode (Affiliation) Networks

Week 5 (10/9) Interactionism and its Key Concepts

A. Why Do Networks Form, and What Holds Them Together? Attraction and Homophily

Read: Wasserman and Faust, pp. 169-219


More on the notions of attraction and homophily:

James Coleman, The Adolescent Society (Free Press, 1961[71]), especially chapter 7
B. From Micromechanisms to Group Cohesion: Balance Theory and Clique Formation

Read: Wasserman and Faust, pp. 220-90 and 556-602

Other materials on the notion of balance:

Maureen Hallinan, *The Structure of Positive Sentiment* (Elsevier, 1974)
Ithiel de Sola and Manfred K. Pool, “Contacts and Influence,” *Social Networks* 1:5-51

On the notion of cliques, a good deal of it empirical:

John Cottrell, *Social Networks and Social Influences in Adolescence* (Routledge, 1996)

Technical extensions and relaxations of the notion of clique:

Kenneth A. Frank, “Identifying Cohesive Subgroups,” *Social Networks* 17:27-56
Kenneth A. Frank, “Mapping Interactions Within and Between Cohesive Subgroups,” *Social Networks* 18:93-119
Supplemental stuff on the early history of sociometry:

John Scott, *Social Network Analysis*, chs. 2-4 (esp. chapter 2)
J. L. Moreno, Helen Jennings and Richard Stockton, “Sociometry in the Classroom,” *Sociometry* 6:425-8

**Week 6 (10/16)**

Network Positions and their Consequences

A. The Notion of Centrality


Other empirical examples of how centrality matters:

Roger Gould, “Power and Social Structure in Community Elites,” *Social Forces* 68:531-52
Paulette Lloyd and Elizabeth Cohen, “Peer Status in the Middle School: A Natural Treatment for Unequal Participation,” *Social Psychology of Education* 3:193-216

More supplemental stuff on the measures:

Linton Freeman, “Centrality in Social Networks,” *Social Networks* 1:215-39
Linton Freeman, “A Set of Measures of Centrality Based on Betweenness,” *Sociometry* 40:35-41
Karen Stephenson and Marvin Zelen, “Rethinking Centrality: Methods and Examples,” *Social Networks* 11:1-37

B. Brokerage

Other stuff:

Ronald S. Burt, *Structural Holes* (Chicago, 1992), especially Introduction and chapter 1

C. Reach and the Idea of the Strength of Weak Ties


Other materials on the strength of weak ties:

Mark S. Granovetter, “The Strength of Weak Ties,” *American Journal of Sociology* 78:1360-80
Mark S. Granovetter, “The Strength of Weak Ties: A Network Theory Revisited,” *Sociological Theory* 1:201-33
Wasserman and Faust, pp. 109-36
M. T. Hansen, “The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organization Subunits,” *Administrative Science Quarterly* 44:82-111
Noah Friedkin, “A Test of Structural Features of Granovetter’s Strength of Weak Ties Theory,” *Social Networks* 2:411-22
Peter Marsden and K. E. Campbell, “Measuring Tie Strength,” *Social Forces* 63:482-501

D. Network Position as ‘Social Capital’

James Coleman, *Foundations of Social Theory* (Harvard, 1990), pp. 300-21
E. Power and Resource Dependency Theory


**Week 7 (10/23)  Hierarchy out of Interactions (one interactionist form of emergent structure)**

A. Transitivity


Other work on hierarchy formation:

Frans DeWaal, *Chimpanzee Politics* (Johns Hopkins, 1982).
Steve Ellyson and John Dovidio (eds.), *Power, Dominance, and Nonverbal Behavior* (Springer-Verlag, 1985).


Material more explicitly on the idea of Transitivity:


Wasserman and Faust, pp. 564-82 (again)


B. Extensions to Trees, or Chains:


Other materials on formal and informal organizational structure as trees:


**Week 8 (10/30)** Structuralist Approaches to Networks

Read: Wasserman and Faust, pp. 345-424 and 461-502


Other materials:

John Scott, *Social Network Analysis: A Handbook*, chapters 7 and 8
Scott Boorman and Harrison C. White, “Social Structure from Multiple Networks. II: Role Structures,” *American Journal of Sociology* 81:1384-1446
François Lorrain and Harrison C. White, “Structural Equivalence of Individuals in Social Networks,” *Journal of Mathematical Sociology* 1:49-80
Wasserman and Faust, pp. 675-724
William Panning, “Fitting Blockmodels to Data,” *Social Networks* 4:81-101

**Week 9 (11/6)**

Kinship as Network Role Structure


Other anthropological and historical materials on kinship:

Robin Fox, *Kinship and Marriage*, chapters 1, 3, 4, 6-8
Meyer Fortes, *The Dynamics of Clanship Among the Tallensi* (Oxford, 1945)
Paula Rubel and A. Rosman, *Your Own Pigs You May Not Eat* (Chicago, 1978)
Peter Ekeh, *Social Exchange Theory: The Two Traditions*, chapter 3 (Heinemann, 1974)


David Herlihy, “Family Solidarity in Medieval Italian History,” in David Herlihy et al. (eds.), *Economy, Society and Government in Medieval Italy* (Kent State, 1969)

Diane Owen Hughes, “Kinship and Neighbors in Medieval Genoa,” in Harry Miskimin et al. (eds.), *The Medieval City* (Yale, 1977), pp. 95-112

Diane Owen Hughes, “From Brideprice to Dowry in Mediterranean Europe,” *Journal of Family History* 3:262-96


Classic small group studies:

Elizabeth Bott, “Urban Families: Conjugal Roles and Social Networks,” *Human Relations* 8:345-84


International Trade:


**Week 10 (11/13) Primary Effects of Networks**

A. Solidarity and Mutual Support:

Read: Barry Wellman and S. Wortley, “Different Strokes from Different Folks: Community Ties and Social Support,” *American Journal of Sociology* 96:558-88 [JSTOR]

Other materials:

S. M. Kana’iaupuni et al., “Counting on Kin: Social Networks, Social Support, and Child Health Status,” *Social Forces* 83:1137-64

Charles Kadushin, “Social Density and Mental Health,” in Peter Marsden and Nan Lin (eds.), *Social Structure and Network Analysis* (Sage, 1982), chapter 7
Claude S. Fischer, *To Dwell Among Friends* (Chicago, 1982), esp. chapters 1, 12-16
Barry Wellman, Peter J. Carrington, and Alan Hall, “Networks as Personal Communities,” in Barry Wellman and S. D. Berkowitz (eds.), *Social Structures: A Network Approach* (Cambridge, 1988), ch. 8
Carol B. Stack, *All Our Kin: Strategies for Survival in a Black Community*, chs. 3 and 6 (Harper & Row, 1974)

**B. Information and Advice**


Also, for example:


**C. Diffusion …**

1) of disease:

Martina Morris, “Epidemiology and Social Networks,” *Sociological Methods and Research* 22:99-126. [see other Morris work as well]
2) of ideas and attitudes:


Gary Alan Fine, “Folklore Diffusion through Interactive Social Networks: Conduits in a Preadolescent Community,” in his *Manufacturing Tales: Sex and Money in Contemporary Legends* (Tennessee, 1992)


Myong-Hun Chang and Joseph E. Harrington, Jr., “Discovery and Diffusion of Knowledge in an Endogenous Social Network,” *American Journal of Sociology* 110:937-76

D. Vacancy Chains:

Read: John F. Padgett, “Mobility as Control: Congressmen through Committees,” in Ronald L. Breiger (ed.), *Social Mobility and Social Structure* (Cambridge, 1990), pp. 27-58 [website]


Ivan D. Chase, “Vacancy Chains,” *Annual Review of Sociology* 17:133-54


D. Randall Smith and Andrew Abbott, “A Labor Market Perspective on the Mobility of College Football Coaches,” *Social Forces* 61:1147-67

Week 11 (11/20) Economic Relations

A. Transactions and Markets


John F. Padgett and Paul D. McLean, Santa Fe Institute Working Paper GET FULL CITE


Joel Podolny, “Networks as the Pipes and Prisms of the Market,” *American Journal of Sociology* 107:33-60


Emilio J. Castilla, “Social Networks and Employee Performance in a Call Center,” *American Journal of Sociology* 110:1243-83
B. Ownership


Mark S. Mizruchi, *The Structure of Corporate Political Action* (Harvard, 1992)


C. Networking and Strategy


Ronald S. Burt, *Structural Holes* (Chicago, 1992), especially Introduction and chapter 1


Vanina Leschziner, “Recognition by Omission: Authorship and Differentiation in the Culinary Field,” unpublished ASA conference paper

Week 12 (11/27) History and Politics through a Social Network Lens


Politics in various places:

Peter S. Bearman, *Relations into Rhetorics*, especially pp. 1-18, 42-5, 72-93, 95-111, 131-181
Peter Bearman, James Moody, and Robert Faris, “Networks and History,” *Complexity* 8,1:61-71
Roger V. Gould, *Insurgent Identities* (Chicago, 1995), especially chapters 1, 2, 6, 7
Edward O. Laumann and David Knoke, *The Organizational State* (Wisconsin, 1987)
Gerhard Lehbruch and Philippe Schmitter (eds.), *Patterns of Corporatist Policy-Making* (Sage, 1982)

Specifically on Social Movements:

Migration:

Vilna F. Bashi, *Survival of the Knitted* (forthcoming from California, 2007)

Some older, formative anthropological and historical material:

Fredrik Barth, *Political Leadership Among the Swat Pathans* (Athlone, 1965), especially chapters 7 and 9
Carl Landé, *Leaders, Factions, and Parties: The Structure of Philippine Politics* (Yale, 1965)
S. Schmidt, James Scott, Carl Landé, and Laura Guasti (eds.), *Friends, Followers, and Factions* (California, 1977)
Lily Ross Taylor, *Party Politics in the Age of Caesar* (California 1968 [1949])
Martin Shefter, “The Emergence of the Political Machine: An Alternate View,” in Willis D. Hawley et al. (eds.), *Theoretical Perspectives on Urban Politics* (Prentice-Hall, 1976)

**Week 13 (12/4)**

**Networks and Culture**

**A. Discourse and Interaction**


Mustafa Emirbayer and Jeff Goodwin, “Network Analysis, Culture, and the Problem of Agency,” *American Journal of Sociology* 99:1411-54
Harrison C. White, “prequel to Mische and White GET CITE FROM LATER ARTICLE?
Ann Mische and Harrison C. White, “Between Conversation and Situation: Public Switching Dynamics Across Network Domains,” *Social Research* 65:695-724

B. Mapping Cognition with Network Tools:


Kathleen Carley, “Knowledge Acquisition as a Social Phenomenon,” *Instructional Science* 14:381-438
Linton C. Freeman, “Cliques, Galois Lattices, and the Structure of Human Social Groups,” *Social Networks* 18:173-87

Some work on neural networks and information processing:

David Rumelhart et al., *Parallel Distributed Processing: Explorations in the Microstructure of Cognition* (MIT, 1986)

**Week 14 (12/11) Thinking Dynamically about Networks**

A. The Santa Fe Approach

Read: John F. Padgett, “Organizational Genesis in Florentine History: Four Multiple-Network Processes,” unpublished ms., selections [website]

Walter Fontana and Leo Buss, “The Barriers of Objects: From Dynamical Systems to Bounded Organizations, in John Casti et al. (eds.), *Boundaries and Barriers*

**B. Algorithms and Conceptual Issues**

Muriel Hammer, “Predictability of Social Connections over Time,” *Social Networks* 2:165-80
V. Eguíluz et al., “Cooperation and the Emergence of Role Differentiation in the Dynamics of Social Networks,” *American Journal of Sociology* 110:977-1008
Scott Moss and Bruce Edmonds, “Sociology and Simulation: Statistical and Qualitative Cross-Validation,” *American Journal of Sociology* 110:1095-1131

**C. Substantive Applications**


Brian Uzzi, “The Emergence of Broadway,” unpublished ms.
Appendix: Further Reading on Methodological Issues

Entering Data:

Ove Frank, “Network Sampling and Model Fitting,” in Peter Carrington et al. (eds.), *Models and Methods in Social Network Analysis* (Cambridge, 2005), chapter 3

Regression Analyses of Network Data:

Lutz Erbring and Alice Young, “Individuals and Social Structure: Contextual Effects as Endogenous Feedback,” *Sociological Methods and Research* 7:396-430
David Krackhardt, “QAP Partialling as a Test of Spuriousness,” *Social Networks* 9:171-86
David Krackhardt, “Predictions with Networks: Nonparametric Multiple Regression Analysis of Dyadic Data,” *Social Networks* 10:359-81
Patrick Doreian and Frans Stokman (eds.), *Evolution of Social Networks* (Gordon & Breach, 1997), especially chapters 1 and 19
Lothar Krempel and Thomas Plumper, “Exploring the Dynamics of International Trade by Combining the Comparative Advantages of Multivariate Statistics and Network Visualization,” *Journal of Social Structure* 4:1

**Clustering:**


Eliot Noma and D. Randall Smith, “Benchmark for the Blocking of Sociometric Data,” *Psychological Bulletin* 97:583-91

David Knoke and James Kuklinski, *Network Analysis* (Sage, 1982), chapter 4

Paul Green, *Multidimensional Scaling: Concepts and Applications*


**Graphing Issues:**


James Moody, “Peer Influence Groups: Identifying Dense Clusters in Large Networks,” *Social Networks* 23:261-83

Linton C. Freeman, “Visualizing Social Networks,” *Journal of Social Structure* 1, or at [www.hwinz.cmu.edu/project/INSNA/joss/vsn.html](http://www.hwinz.cmu.edu/project/INSNA/joss/vsn.html)


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