

GEOGR 6960 –Seminar in Geographic Problems– Spring 2004	
Topic: Social networks in space and time	
Instructor:	Prof. Harvey J. Miller
Meeting time and place	Monday 2:00 pm – 5:00 pm OSH 215
Office hours and location:	Monday, Wednesday 10:00 – 11:30 am OSH 270 or by appointment
Phone:	585-3972
Internet:	harvey.miller@geog.utah.edu
WWW:	www.geog.utah.edu/~hmillr

COURSE DESCRIPTION

A **social network** comprises the relationships an individual has with family, friends, co-workers, neighbors, and groups such as church, recreation, political, social, and other groups. Social networks form the foundation of communities, societies and economies: they are the glue that holds communities, societies and economies together.

Social networks do not occur randomly or spontaneously: rather, they arise from the human contact through daily activities such as home, work, recreation, shopping and so on. They can also occur through media such as cell phones and the Internet. Consequently, there are spatial and temporal regularities in social network formation and maintenance: these networks occur and sustain themselves in particular places and time. Geographic factors such as urban form and urban design can influence or retard the growth of social networks. Technologies such as transportation and ICTs (information and communication technologies) also influence the development of social networks by determining where and when people can be in order to participate in shared activities. This raises important research and policy issues surrounding how to plan, manage and design cities as well as transportation and communication technologies to foster social networks.

The purpose of this seminar is to study issues surrounding the formation and maintenance of social networks in space and time. We will first review the literature on social network analysis. We will then examine the geographic literature on activities in space and time, and also discuss literature that addresses the role of transportation and ICTs in social network formation and maintenance. Finally we will examine cutting-edge research on visualization and computational analysis and modeling of social networks.

COURSE FORMAT AND EVALUATION

Class presentations and participation	50% of final grade
Term project	50% of final grade

POLICIES

- 1) Individual extra credit will not be assigned
- 2) An "incomplete" will be given only in extreme cases when conditions beyond the student's control require an extended period of absence.
- 3) The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you need accommodations in this class,

reasonable prior notice needs to be given to the instructor and the Center for Disabled Student Services, 581-5020 (voice or TDD).

IMPORTANT DATES FOR SPRING SEMESTER 2002

- Martin Luther King Jr. Day holiday - Mon, January 19
- President's Day holiday - Mon, February 16
- Spring Break - Mon-Fri, March 15-19
- Classes end - Wed, April 28

DISCUSSION FORMAT

On a rotating basis, you will be required to lead discussion on a seminar topic. Your presentation may be formal (e.g., Powerpoint, but I will need to arrange for a computer projector) or informal (discussion). In the latter case, you should at least have a handout consisting of notes or an extended abstract of the paper.

WEB TOOLS

Online course materials and links to relevant websites will be provided through a WebCT course homepage (<http://webct.tacc.utah.edu/>). **Students are responsible for all material posted on this page and are expected to check this page frequently for these materials and any announcements.** Students should treat webpages similarly to assigned readings, in other words, explore and **study** these pages in advance of the corresponding class meeting.

TERM PROJECT

The term project is flexible: you can choose any topic of interest on social networks in space and time. The project can be a classic term paper; this is usually a literature review with a proposal for research directions or a specific research project. You could also develop a new computational tool using GIS and some programming language. In this latter case, you will turn in a technical report to the instructor (i.e., a short report outlining the purpose of the tool, what software you used or code you developed, how it works from a user perspective) and give a demo to the class.

Since this is a graduate seminar, with any term project you should be thinking of your MS or PhD thesis research (this could be a pre-proposal or a pilot study) or a side project which you could turn into a publishable paper.

You will also be required to make a short presentation (15 minutes or so – depends on how many take the class) on your project during the last class session.

Due dates:

300 – 500 word abstract – March 1

Rough paper outline – March 15

Detailed paper outline – April 5

Paper due – April 21

DISCUSSION SCHEDULE	
Meeting	Discussion and leaders
Jan 12	Seminar organization Leader: N/A
Jan 26	Overview of social networks <ul style="list-style-type: none"> • Degenne and Forsé (1999) Introduction and Chp. 1 • Mizruchi, M. S. (1994) Leader:
Feb 2	Sociability, activities and social networks <ul style="list-style-type: none"> • Degenne and Forsé (1999) Chp. 2 • Feld (1981) Leader:
Feb 9	Graph theory <ul style="list-style-type: none"> • Degenne and Forsé (1999) Chp. 3 • Wasserman and Faust (1994) Chp. 4 Leader:
Feb 16	Equivalence and cohesion <ul style="list-style-type: none"> • Degenne and Forsé (1999) Chp. 4 Leader:
Feb 23	NO MEETING
March 1	Social capital <ul style="list-style-type: none"> • Degenne and Forsé (1999) Chp. 5 • Forrest and Kearns (2001) Leader:
March 8	Centrality and power <ul style="list-style-type: none"> • Degenne and Forsé (1999) Chp. 6 Leader:
March 22	Social network dynamics <ul style="list-style-type: none"> • Degenne and Forsé (1999) Chp. 7 Leader:
March 29	Activities in space and time <ul style="list-style-type: none"> • Golledge and Stimson (1997) Chps. 8-9 Leader:
April 5	Transportation, ICTs and social networks <ul style="list-style-type: none"> • Miller (2003) • Wellman (2001) Leader:
April 12	Visualization of social networks <ul style="list-style-type: none"> • Dürsteler (2003a, 2003b) • <i>A GALLERY OF SOCIAL STRUCTURES- Network Visualization: case studies.</i> URL below • other TBA Leader:

April 19	Computational modeling of social networks <ul style="list-style-type: none"> • Hummon, N. P. and Fararo, T. J. (1995) • Batty and Jiang (1999) Leader:
April 26	Presentation of student projects

READINGS	
<ul style="list-style-type: none"> • <i>A GALLERY OF SOCIAL STRUCTURES- Network Visualization: case studies</i>, http://www.mpi-fg-koeln.mpg.de/~lk/netvis/substanz.html • Batty, M. and Jiang, B. (1999) "Multi-agent simulation: new approaches to exploring space-time dynamics within GIS," research report, Centre for Advanced Spatial Analysis, University College London. http://www.casa.ucl.ac.uk/multi_agent.pdf • Brandes, U. Raab, J. Wagner, D (2001) " Exploratory network visualization: Simultaneous display of actor status and connections, <i>Journal of Social Structure</i> 2(4) http://zeeb.library.cmu.edu:7850/JoSS/brandes/index.html • Degenne, A. and Forsé, M. (1999) <i>Introducing Social Networks</i> • Dürsteler, J. C. (2003a) "Social networks," <i>Inf@Vis!:</i> The digital magazine of InfoVis.net, no 136. http://www.infovis.net/E-zine/2003/num_136.htm • Dürsteler, J. C. (2003b) "Visualizing social interaction," <i>Inf@Vis!:</i> The digital magazine of InfoVis.net, no 133. http://www.infovis.net/E-zine/2003/num_113.htm • Feld, S. L. (1981) "The focused organization of social ties," <i>American Journal of Sociology</i>, 86, 1015-1035 • Forrest, R. and Kearns, A. (2001) "Social cohesion, social capital and the neighbourhood," <i>Urban Studies</i>, 12, 2125-2143. • Freeman, L. (2000) "Visualizing social networks," <i>Journal of Social Structure</i>, 1. http://www.cmu.edu/joss/vsn.html • Golledge, R. G. and Stimson, R. J. (1997) <i>Spatial Behavior: A Geographic Perspective</i> • Hummon, N. P. and Fararo, T. J. (1995) "Actors and networks as objects," <i>Social Networks</i>, 17, 1-26 • Miller, H. J. (2003) "Travel chances and social exclusion," Resource paper, 10th International Conference on Travel Behavior Research, Lucerne, Switzerland, 10-14 August 2003. • Mizuruchi, M. S. (1994) "Social network analysis: Recent achievements and current controversies," <i>Acta Sociologica</i>, 37, 329-343. • Wellman, B., Haase, A. Q., Witte, J. and Hampton, K. (2001) "Does the Internet increase, decrease or supplement social capital? Social networks, participation and community commitment," <i>American Behavioral Scientist</i>, 45, 436-455. 	