University of South Florida
Department of Anthropology
Tampa, Florida 33620

SYLLABUS: SOCIAL NETWORKS (draft 8/28/02)

ANT ANT 4930-901 Ref No. 85611 // ANT ANG 6447-001 Ref No. 85612

Semester I, 2002-2003. Wednesday, 4:00 - 6:50 pm. SOC 37 (Dept Conference Room)

Alvin W. Wolfe, Professor of Anthropology

Office Hours: 10-12 am. T,W,R in SOC 135, other times by appointment, so please call 974-0794, or email wolfe@chuma1.cas.usf.edu, or consult web site http://luna.cas.usf.edu/~wolfe In addition to office hours, however, we will be regularly communicating through a computer "list" entitled "ANT6447". Please subscribe to the ANG6447 computer "list" entitled "ANT6447" From your usual email computer, send the following command to lyris@lists.cas.usf.edu: subscribe ANT6447 firstname lastname
Alternatively, in your internet browser go to http://www.cas.usf.edu/cgi-bin/lyris.pl?enter=ANT6447
From there you should be able to join the list.

DESCRIPTION OF COURSE. The topic in this anthropology special topics course is the use of network models in understanding a wide variety of social phenomena from personal friendships to supranational webs of huge organizations and corporations.

OBJECTIVES. This seminar explores an approach, network analysis, with potentially important application to all social situations. Theoretical and empirical and practical issues will be considered under a number of headings, including: transaction/relation; modes of transactions; networks of transactions; collecting transactional and network data; networks as sets of links; network structure; network flow; and finally, several headings on various uses of network models. Students will get some experience in collecting relational data, in computer processing of data, and in applications of such analysis to practical situations.

REQUIREMENTS.

A. Reading will be done from a variety of sources. These sources include:

(a) the major textbook, Wasserman, Stanley and Katherine Faust. 1995. Social Network Analysis: Methods and Applications. New York: Cambridge University Press.

(b) prepublication copies of chapters of a book, Network Models and Their Applications. Technically this is unpublished but we refer to it in this syllabus as Wolfe 2002. Chapter by chapter it will be made available via Wolfe's Web page <http://luna.cas.usf.edu/~wolfe>.

(c) a book, Scott, John. 2000. Social Network Analysis: A Handbook, Second Edition. London: Sage Publications.

(d) periodicals, e.g., SOCIAL NETWORKS, CONNECTIONS, and the web-based JOURNAL OF SOCIAL STRUCTURE <http://www.heinz.cmu.edu/project/INSNA/joss/>.

(e) other materials reserved in the library under ANG6447,available to students through the USF Library <http://www.lib.usf.edu/virtual/> or on shelves and in drawers in SOC 015 (see bibliography associated with this syllabus).

All should read all assignments in the main texts (a, b, and c), but other than that, other readings should be selected by each student from among the items referred to under each heading in the attached schedule of topics, with whatever additional items serve the student's purposes. Some of the items listed on the schedule have been put on reserve in the library, or are in serials which cannot be removed from the library, so it is advisable to plan periods of study in the library. In general, full citations for the works referred to in this syllabus will be found in a selected bibliography keyed to ANG6447, maintained as an html file on the "luna/~wolfe" web site.

B. Network analysis requires electronic computation. Although actual projects are not required of undergraduate students, all students would benefit from having access to computing facilities, on your own PC or through the CAS Computer Lab in SOC 279 and perhaps other labs. Graduate students should purchase UCINET and KRACKPLOT Software available from Analytic Technologies [www.analytictech.com]

C. From the second week on, each student will come to each seminar meeting with a brief (approx 200 words) written comment on some point relevant to that week's topic. Comments should make use of both assigned readings and outside readings, to which complete citations should be provided if they are not clearly identified in the

bibliographies associated with the course as mentioned above. Late comments will be discounted heavily, since the purpose of these is seminar discussion. These brief comments will constitute 26% of the semester's evaluation. (26 points)

D. Participation in seminar discussion of all topics, constitutes 26% of the evaluation of each student. The criteria for participation include attendance and positive contribution to the discussion both in class and on the computer "list" (26 points)

E. The seminar will be organized so that each student will have an opportunity to work on twelve specific projects. From the fourth week on, graduate students will make formal reports on their projects, the reports having both oral and written parts. For graduate students only, evaluation of these reports will reflect on the evaluation of each graduate student, amounting overall to approximately 24% of the total evaluation. (24 points)

F. Additional reports on network studies will be presented to the seminar by the instructor and, upon occasion, by visiting guests. Some of these have been scheduled in advance, and are listed in this syllabus as "project reports" under the appropriate week.

G. A final examination covering the entire course. (24 points)

REQUIRED LEGAL CONSIDERATIONS.

-Smoking is not permitted. Bomb threats or power failures will not prevent our meetings, because we will in such events meet outside the building, between HMS and SOC, and then proceed to an alternate location.

-Research involving human subjects must follow established departmental, university and professional procedures to protect persons from possible harm or embarrassment. Note that the 1992 SfAA professional statement in this regard is available in Human Organization 51(4).

-A grade of incomplete can be given only under conditions specified in the relevant USF Catalog and only with a contract for completion by a date certain.

-Written work in the Department of Anthropology should conform with the "Current Style Guide" published in the American Anthropologist 97(1):191-194(1995). For this course, I prefer the bibliographic style used in Current Anthropology, mainly because it saves many lines of type. Plagiarism and other forms of dishonesty would be handled according to university, college, and departmental regulations.

WEEKLY SCHEDULE

I. 8/28/02.

Introduction. Overview of network thinking. Introduction to computer use for network data collection and analysis (Anynet in Excel, UCINET, KrackPlot).

Readings: Introductory sections of several of the following: Wolfe 2002. Scott 2000. Wasserman and Faust 1994. Wasserman and Galaskiewicz 1994. Freeman, White and Romney 1989. d'Abbs 1982. Baker and Schumm 1992. Burt and Minor 1983. Maguire 1983. Mitchell 1974. Wellman and Berkowitz 1997. Whitten and Wolfe 1973. Wolfe 1978.

II. 9/4/02. Transaction/relation: Elementary structure of actors, actions, resources. Wolfe 2002, Ch 1,2. Scott 2000, Ch 1. Maguire 1983 Ch 2. Additional Reading: Barth 1966,1981. Blau 1964. Cook 1987. Dow 1973. Ekeh 1974. Emerson 1969, 1973, 1976. Foa 1971. Foa and Foa 1974. Gouldner 1958, 1960. Heath 1976. Hedican 1986. Homans 1971. Lebra 1975. Mauss 1954. Meeker 1971. Nadel 1957. Sokolovsky 1980, 1986, 1991. Whitten and Whitten 1972. Wolfe 1970, 1978, 1992. Wolfe n.d. (Codebooks and Instruments for Network Data Collection).

III. 9/11/02. Transactions/relations: Modes of transactions. Spheres of transactions. Social Capital. Wolfe 2002, Ch 2. Scott 2000, Ch 2. Maguire 1983, 2. Additional Reading: Barth 1981. Bohannan and Dalton 1962, 1965. Boulding and Pfaff 1972. Boulding et al 1973. Ferman 1978. Joy 1967. Meeker 1971. Piore 1971. White 1988. Wolfe 2002. Wolfe n.d. (Codebooks and Instruments...).

IV. 9/18/02. Networks of transactions. Sets of relations at various levels.

Wolfe 2002, Ch 2,3,4. Scott 2000, Ch 2. Additional Reading: Burt and Minor 1983 I(1,2). Willer and Anderson 1981. Bernard, Killworth, and Sailer 1981 (on small world). Emerson 1969, 1973, 1976. Freeman, White and Romney 1989, Ch 1 (Freeman). Gottlieb 1982 passim. Watts 1999.

Projects 1 and 2, not required of undergraduate students: Using as a guide an appropriate codebook or instrument (e.g. from Wolfe's Codebooks and Instruments) collect link/relational data on a network consisting of at least ten contacts of a person or organization, entering the data as a data set on a PC. This can be done using Anynet in Excel, or any text editor. Project 1 will be input suitable for Krackplot, and Project 2 will be input of the kind that UCINET calls a "dl" file.

V. 9/25/02. Collecting transactional and network data. Techniques. Accuracy, validity, reliability. Wolfe 2002, Ch 4. Scott 2000, Ch 3,4. Additional Reading: Burt and Minor 1983 I(3-5). Maguire 1983, 1. Bernard, Killworth, Kronenfeld, and Sailer 1984. Bernard, Killworth, and Sailer 1981. Freeman, Romney, Freeman 1986. Hammer 1984. Hampton 1999. Knoke and Kuklinski 1982. Wolfe nd (Codebooks and Instruments for Network Data Collection).

Project 3, not required of undergraduate students: Develop another data set that might be compared with those of Projects 1 and 2.

VI. 10/02/02. Networks as sets of links. Size, density, variety, range. Wolfe 2002, Ch 4. Scott 2000, Ch 4. Wolfe 1970. Additional Reading: Freeman, White and Romney, Ch 3 (Laumann, Marsden, and Prensky). Burt and Minor 1983 I(6,7,8). Maguire 1983 2. Mitchell 1969, 1974. Wolfe 1974.

Project 4, not required of undergraduate students: Compare two or more sets of network links, making some statement about how they are alike and how they differ. (Use Wolfe 1970 or 1974, or Cohen and Sokolovsky 1986, as guides or models if you like.)

Project 5, not required of undergraduate students. Present some data (a small network or part of one) in two formats: as a network graph and as a matrix.

VII. 10/09/02. Network structure: Connectedness. Centrality. Range. Segregation/Integration.

Wasserman and Faust 1994, passim. Wolfe 2002, Ch 5. Scott 2000, Ch 5. Burt and Minor 1983 II(9,10). Freeman 1978, Freeman et al 1979.

Project 6, not required of undergraduate students: Contrast the density or connectedness of two or more networks.

Project Reports:

Guest: Guy Hagen, Anthro MA Graduate, was assistant director of USF TDC for several years and is now a consultant under the title "InnovationInsight". Topic: Computer network topologies. Guy Hagen has taken social network concepts and developed 'optimization' algorithms for computer networks. See: http://www.networkinsight.net/optimize.htm

VIII. 10/16/02. Network structure: Clusters, Equivalencies and Hierarchies. One-mode vs two-mode networks. Multidimensional Scaling. Wasserman and Faust, passim. Wolfe 2002, Ch 5. Scott 2000, Chs 6,7. Additional Reading: Pattison 1994. Freeman, White and Romney 1989, Section V (Mitchell, Arabie, Carroll, Heil, Reitz, White, Marsden). Burt and Minor 1983 II(13,14). Bernard and Killworth 1973. Burt 1988. Doreian 1987, 1999. Faust and Romney 1985. Harary and Battel 1981. Marsden and Lin 1982. Killworth and Bernard 1974. Knoke and Kuklinski 1982. Kruskal and Wish 1978. Michaelson 1991. Sailer 1978. Schiffman, Reynolds and Young 1977. Wellman and Berkowitz 1997. White and Reitz 1983.

Project 7, not required of undergraduate students: Compare some centrality measures of at least two networks.

Project Reports:

IX. 10/23/02. Network flows. Wolfe 2002, Ch 6. Wasserman and Faust 1994. Freeman, Borgatti, and White 1991. Zachary 1975 or 1977. Additional Readings: Bazarra and Jarvis 1977. Bernard and Killworth 1978. Burgess 1978. Dunn 1980. Elmaghraby 1970. Ford and Fulkerson 1962. Granovetter 1973. Phillips and Dessouky 1977. Travers and Milgram 1969. Turk 1970. White, Harrison 1973. Wolfe 1977.

Project 8, Class project, using Killworth and Bernard's CATIJ program to analyze data jointly collected following their specified procedures, the class will learn the CATIJ technique to analyze at least one network so that clusters are exhibited.

X. 10/30/02. Uses of network models: Personal support systems. Domestic domains.

Wolfe 2002, Chs 7,8,9. Walker, Wasserman and Wellman 1994. Additional Readings: Albrecht and Adelman 1987. Albrecht and Hall 1991. Bezon 1993. Bott 1955, 1971. Ennett 1999. Fischer 1981. Froland et al. 1981. Giranda, Lluk and Atchison 1999. Gottlieb 1981, Part I and passim. Ikkink and van Tilburg 1999. Jarvis 1999. Llanos et al. 1999. Maguire 1983, 2-5. Popielarz 1999. Salzinger, Antrobus and Hammer 1988. Sarason et al 1987. Wellman 1982. Wellman and Berkowitz 1997. Wolfe et al 1968.

Project 9, not required of undergraduate students: Using Burt's STRUCTURE program (or Structure as it is programmed in UCINET) to analyze at least one network so that "structural equivalence" is illustrated.

Project Reports: Lifetime network of Howard Hughes (Wolfe and Clark). Separated spouses. Networks of the elderly.

XI. 11/06/02. Uses of network models: Community domains, including health and human services . Prevention, healing, support, and therapy. Affiliation networks, Overlapping subgroups.

Wolfe 2002, Chs 8-12.Wasserman and Faust 1994, Chapter 8. Marsden and Friedkin 1994. Johnson 1994. Rice 1994. Arabie and Wind 1994. Wellman and Berkowitz 1997. Additional Readings: Attneave 1969. Bell, Atkinson and Carlson 1999. Burgess, John 1978. Burt and Minor 1983 II(12,16). Baker and Schumm 1992. Berkowitz 1982, chs 3,4. Bezon 1993. Bursik 1999. Burt 1979. Collins and Pancoast 1976. Dunn 1980. Galaskiewicz 1979, 1984,

1985. Garrison and Werfel 1977. Gatti and Colman 1976. Gordon, Edmunson and Bedell 1979. Gottlieb 1982. Gottlieb and Coppard 1987. Granovetter 1973, 1982. Greenbaum 1982. Greenbaum and Greenbaum 1985. Hammer 1963. : Horwitz 1982. Knoke and Laumann 1982. Laumann, Galaskiewicz, and Marsden 1978. Laumann and Pappi 1973 (in Leinhardt 1977). Lee 1969. Lin and Peek 1999. Maguire 1983 5,6,7. McKinlay 1973. Morris 1994. Pattison et al 1979. Pattison et al 1979. Ruevini 1979. Ruevini and Speck 1982. Salloway 1973, 1974. Sarason, Irwin et al. 1987. Sarason and Lorentz 1977. Sokolovsky 1986, 1980. Sokolovsky and Cohen 1976, 1989. Speck and Attneave 1973.Thompson 1973. Tolsdorf 1976.Whitt 1987. Wolfe nd. "Network Approach to Mental Health Services for the Homeless."

Project Reports: Separated spouses. Community network development. Howard Hughes network. Interorganizational linkages. Human Services Information System (Wolfe). Client tracking, case management. Electronic ethnography (Wolfe). Neighborhood networks. Urban systems. Transportation planning.

Project 10, not required of undergraduate students: Using White and Reitz's REGEQ program, or Regular Equivalence as it is programmed in UCINET) to analyze at least one network so that "regular role equivalence" is illustrated.

Guest: Shelly Smith, M.A. Juvenile Welfare Board of Pinellas County. See her USF MA thesis: A Network Analysis of Collaboration….(2001).

XII. 11/13/02. Uses of network models: Work, employment, occupations, careers, professions. Organizational networks.Also: Job finding. Job satisfaction. Careers. Networks in bureaucratic situations. Professional linkages.

Baker and Schumm 1992. Albrecht and Adelman 1987. Bernard and Killworth 1973. Granovetter 1974. Krackhardt and Brass 1994. Additional Readings: Burt 1982a. Carley 1999. Doloff 1999. Ferman, et al 1978. Galaskiewicz 1999. Gunter 1970. Hansen 1999. Hoare 1973. Indergaard 1999. Klingman and Mulvey 1981. Knoke 1988. Lawrence and Lorsch 1967. Mintzberg 1979. Philips and Dessouky 1977. Rice 1981. Richardson 1974. Rogers and Kincaid 1981. Russell 1999. Van Winkle 1979. Wolfe 1973, 1974, 1992.

Guest: Dean Walsh, USF College of Business. Networks and Coalitions in Management.

Project 11. Using some symmetrical matrix of distances, run a multidimensional scaling program (e.g. MDS in UCINET or KRACKPLOT, or in SAS) to produce a two-dimensional representation of multi-dimensional data.

Project Reports: Supranational system. Conflict resolution and peace.

XIII. 11/20/02. Uses of network models: Societal, international, supranational domains. Conflict resolution. Wolfe 2002, Ch 13. Wolfe 1996. Baker 1990. Knoke 1994. Mizruchi and Galaskiewicz 1994. Berkowitz 1982, Chs 3,4. Additional Reading: Burt 1979. Carley, Hummon and Harty 1993. Burt and Minor 1983 II(12,16). Dunn 1980. Fennema 1982. Granovetter 1985. Hine 1977. Knoke 1990. Levine 1973 (in Leinhardt 1977). Mintzberg 1979. Mizruchi 1985, 1987. Mizruchi and Schwartz 1987. Smith and White 1986+. Uzzi 1999. Valente and Davis 1999. Whitt 1987. Wolfe 1977, 1985, 1995.

Project 12. Using the NETFLOW algorithm, or Network Flow as it is programmed in UCINET, illustrate the way a network may have a "minimal cut" which determines the maximum flow through the network.

XIV. 11/27/02. Uses of Network models. Continued

XV. 12/04/02. Final Exam.