

**University of Calgary  
Department of Sociology  
Sociology 601.01 – Social Network Analysis  
Winter, 2010**

**Instructor:**

Dr. Jenny  
Godley

**Class Hours:**  
W, 9:30-12:20  
SS922

**Office:**

**Office Hours:**

**Class  
Location:** ENA235  
M,W 12:30-  
13:30, or by appt.

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**E-mail:** [jgodley@ucalgary.ca](mailto:jgodley@ucalgary.ca)\*

\* Please use email for administrative concerns only. Substantive issues should be addressed in person, either in class, during office hours, or during an appointment time.

NOTE: this course outline is subject to revision. All changes will be announced in class.  
*Last revised 11 January, 2010*

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**Overview:**

This course provides an introduction to social network analysis. We will begin by exploring the history of social network analysis in the social sciences, focusing on the theoretical underpinnings of the social network approach in sociology. The second section of the course will cover methods for analyzing both ego-centred and global network data. You will receive instruction in UCINET, a social network analysis software program. In the third section of the course, we will explore how network analysis has been used in several substantive areas in sociology. Throughout the semester, students will work on individual projects, using network data to examine empirical questions within their substantive area of interest in sociology.

**Requirements:**

- A. Reading:  
Readings are assigned for each day of class. Please come to class every day having read the materials. Bring any questions or comments you have about the readings with you to share with your classmates. Please bring your copies of the texts to class, as we will refer to them often. Supplemental readings may be assigned throughout the semester; they will be announced in class and / or on email.
- B. In-Class Participation (Oral and Written):  
You are encouraged to participate as fully as possible in classroom activities. Each class period may include numerous activities such as discussions, debates, presentations, and various forms of writing. Please take classroom participation seriously; respect your peers' contributions, and provide feedback as constructively as possible.
- C. Homework Assignments:  
There will be three homework assignments, handed out during the second part of the course (social network methods). You are encouraged to work together on the homework assignments, but the material that you hand in must be your own work. The assignments will enable you to practice the social network methods we learn in class. You will need to use two software packages to complete the assignments: UCINET and SPSS. Both of these software packages are available in the Tri-Lab, and we will discuss other ways to access the software in class. The assignments are due on the 3<sup>rd</sup>, 10<sup>th</sup> and 17<sup>th</sup> of March. Each homework assignment will be worth 10% of your final grade, for a total of 30%.
- D. Lead Class Discussion:  
Each student will be required to lead one class discussion, focusing on the application of social network analysis in the substantive area of the student's interest. A week prior to your class, you will provide the other students and the instructor with a list of 4-6 articles to read. During your class, you are encouraged to showcase your teaching skills. You will be graded on the selection and presentation of the material, as well as your ability to engage the other class participants. The class discussion will be worth 10% of your final grade.
- E. Paper Outline:  
An outline for your final paper is due 24 February. A description of what should be included in the outline will be distributed in class. The paper outline will be worth 10% of your final grade.
- F. Paper Presentation:  
Each student will have 30 minutes to present their paper to the class during the last week of classes. A description of what should be included in the presentation will be distributed in class. The presentation will be worth 10% of your final grade.
- G. Final Paper:  
The final paper will be due 28 April, at noon in SS922. A full description of what is expected for the final paper will be provided in class. The final paper will be worth 40%

of your final grade.

**Grades:**

Your final grade will be computed as follow:

- Homework Assignments	30%
- Lead Class discussion	10%
- Paper Outline	10%
- Presentation	10%
- Final Paper	40%

I will use the following scale to convert percentage grades to letter grades for this class.

A+ = 95-100	A = 90-94	A- = 85-89
B+ = 80-84	B = 75-79	B- = 70-74
C+ = 65-69	C = 60-64	C- = 55-59
D+ = 50-54	D = 45-49	
F = below 45		

The following description of letter grades comes from the University of Calgary Calendar.

An A indicates superior performance, showing comprehensive understanding of the subject matter.

A B indicates clearly above average performance, with knowledge of the subject matter generally complete.

A C indicates satisfactory performance, with a basic understanding of the subject matter.

A D indicates marginal performance and generally insufficient preparation for subsequent courses in the same subject.

An F indicates unsatisfactory performance, or failure to meet course requirements.

**Additional Information:**

A. **FOIP:**

The Freedom of Information and Protection of Privacy (FOIP) legislation disallows the practice of having students retrieve assignments from a public place, e.g., outside instructor's office, the department office, etc. Term assignments must be returned to students individually, during class or during the instructor's office hours; if students are unable to pick up their assignments from the instructor, they provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

- B. Academic Accommodation:  
Students with a disability, who require academic accommodation, need to register with the Disability Resource Centre (MC 295, telephone 220-8237). Academic accommodation letters need to be provided to course instructors no later than fourteen (14) days after the first day of class. It is the student's responsibility to register with the Disability Resource Centre and to request academic accommodation, if required.
- C. Plagiarism:  
Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. As a result, cheating or plagiarism on any assignment or examination are regarded as serious academic offenses. Students are advised to consult the 2009-2010 University of Calgary Calendar, which presents a Statement of Intellectual Honesty and definitions and penalties associated with plagiarism, cheating, and other academic misconduct.
- D. Safewalk:  
The University of Calgary provides a safewalk service to any location on Campus, including the LRT, parking lots, bus zones, and campus housing. For Campus Security/Safewalk call 220-5333. Campus Security can also be contacted from any of the "Help" phones located around Campus.
- E. Sociology Web Page:  
<http://www.soci.ucalgary.ca>
- F. USRI: At the completion of this course each student will be asked to complete an online Universal Student Ratings of Instruction (USRI) form.
- G. Research Ethics:  
Students are advised that any research with human subjects--including any interviewing (even with friends and family), opinion polling, or unobtrusive observation--must have the approval of the Departmental Ethics Committee. In completing course requirements, students must not undertake any human subjects research without discussing their plans with the instructor, to determine if ethics approval is required.

### **Readings:**

We will be using several textbooks throughout the semester. You do not have to buy these books, as they will be available for copying. A list of the books is provided below. We will also be reading articles that are available for downloading through the U of C library website.

We will refer frequently to articles in two major social network journals: *Social Networks* (<http://www.sciencedirect.com/science/journal/03788733> - you must be logged in on campus to access this link) and *Connections* (<http://www.insna.org/pubs/connections/index.html>). You should familiarize yourself with these journals.

You should also familiarize yourself with the following two websites:  
<http://www.insna.org/> (the International Network for Social Network Analysis).  
<http://www.analytictech.com/> (for social network analysis software).

### **Book list:**

Carrington, Peter J., Scott, John, and Wasserman, Stanley. 2005. *Models and Methods in Social Network Analysis* (Structural Analysis in the Social Sciences, Vol. 27). New York, NY: Cambridge University.

Degenne, Alain and Michel Forse. 1999. *Introducing Social Networks*. Thousand Oaks, CA: Sage.

Levy, Judith A. and Pescosolido, Bernice (Editors). 2002. *Social Networks and Health*. London, England: JAI.

Morris, Martina (Editor). 2004. *Network Epidemiology: A handbook for survey design and data collection*. New York, NY: Oxford.

Scott, John. 2000. *Social Network Analysis – A handbook (Second Edition)*. Thousand Oaks, CA: Sage.

Wasserman, Stanley and Katherine Faust. 1994. *Social Network Analysis: Methods and applications*. (Structural Analysis in the Social Sciences, Vol. 8). New York, NY: Cambridge University.

Wellman, Barry and Berkowitz, S.D. (Editors). 1988. *Social Structure: A network approach*. (Contemporary Studies in Sociology, Vol. 15). London, England: JAI.

## **Schedule:**

### **Week One – 13 January**

*Topic:* Introduction

Overview of the Course

Project Brainstorming

## ***SECTION ONE – Background and Theory of Social Network Analysis***

### **Week Two – 20 January**

*Topic:* Social Network Analysis – Background and Theory

*Readings:*

1. Wellman and Berkowitz, Chapters 1-2 (pp. 1 – 61).
2. Scott, Chapters 1-2 (pp. 1-33).
3. Wasserman and Faust, Chapter 1 (pp. 3-27).
4. Degenne and Forse, Introduction.
5. Fuhse, Jan A. 2009. “The meaning structure of social networks.” *Sociological Theory*, 27:51-73.

### **Week Three – 27 January**

*Topic:* Social Network Analysis – Background and Theory, contd.

*Readings:*

1. Degenne and Forse, Chapters 1-2 (pp. 13-62).
2. Howell, Nancy “Understanding simple social structure: Kinship units and ties.” Chapter 3 in Wellman and Berkowitz (pp. 62-82).
3. Emirbaryer, Mustafa and Goodwin, Jeff. 1994. “Network Analysis, Culture, and the Problem of Agency.” *American Journal of Sociology*, 99:1411-1454.
4. Emirbayer, Mustafa. 1997. “Manifesto for a relational sociology.” *American Journal of Sociology*, 23:281-317.

### **Week Four – 3 February**

*Topic:* Social Network Analysis – Applications in health

*Guest Speaker:* Rhonda Fuhr

*Readings:*

1. Pescosolido and Levy “The role of social networks in health, illness, disease and healing: The accepting present, the forgotten past, and the dangerous potential for a complacent future” Chapter 1 in Levy and Pescosolido (pp. 3-25).
2. Klovdahl, Graviss and Musser “Infectious Disease control: combining molecular biological and network methods” Chapter 3 in Levy and Pescosolido (pp. 73-110).

## ***SECTION TWO – Social Network Methods***

## **Week Five – 10 February**

*Topic:* Network Data – Whole and ego-centred approaches

*Readings:*

1. Scott, Chapter 3 (pp. 38-53).
2. Wasserman and Faust, Chapter 2 (pp. 28-66).
3. Marsden, P.V. 1990. "Network data and measurement." *Annual Review of Sociology*, 16;435-463.
4. Marsden, Peter V. "Recent developments in network measurement". In Carrington, Scott and Wasserman (Chapter 2, pp. 8-30).
5. Morris, "Overview of network survey designs" in Morris (Introduction, pp. 8-21).
6. Campbell, K.E. and A.L. Barrett. 1991. "Name generators in surveys of personal networks." *Social Networks*, 13:203-221.

Reading week – no class 17 February

## **Week Six – 24 February**

*Topic:* Methods – whole networks

*Due:* Paper outline

*Readings:*

- A. Notation, Graphs and Matrices
  1. Wasserman and Faust, Chapter 3 (pp. 69-91).
  2. Wasserman and Faust, Chapter 4 (pp. 92-159).
- B. Degree, Reciprocity, Transitivity
  3. Wasserman and Faust, pp. 159-166.
- C. Density
  4. Scott, Chapter 4 (pp. 63-76).
- D. Centrality and Centralization
  5. Scott, Chapter 5 (pp. 82-96).
  6. Degenne and Forse, Chapter 6 (pp. 132-158).
  7. Wasserman and Faust, Chapter 5 (pp.169-219).
- E. Cohesive subgroups
  8. Scott, Chapter 6 (pp. 100-121).
  9. Wasserman and Faust, Chapter 7 (pp. 249-290).
- F. Positions, equivalence, block models  
TBA

### **Week Seven – 3 March**

*Topic:* Methods – whole networks, contd.

*Due:* Homework one

*Readings:*

A. Strong and weak ties:

1. Degenne and Forse, Chapter 5 (pp. 107-131).
2. Granovetter, M.S. 1983. "The strength of weak ties: A network theory revisited." *Sociological Theory*, 1:201-233.

B. Diffusion of Information

3. Degenne and Forse, Chapter 7 (pp. 159-172).
4. Valente, Thomas V. "Network models and methods for studying the diffusion of innovations." In Carrington, Scott and Wasserman (Chapter 6, pp. 98-116).

C. Affiliations Matrices

5. Wasserman and Faust, Chapter 8 (pp. 291-343).
6. Breiger, R.L. "The duality of persons and groups." - Revised version printed in Wellman and Berkowitz, Chapter 4 (pp. 83-98).

### **Week Eight – 10 March**

*Topic:* Methods – ego-centred networks

*Due:* Homework 2

*Readings:* Ego centred network measures (Size, Density, Homogeneity)

1. Wellman, Carrington, and Hall "Networks as personal communities" Chapter 6 in Wellman and Berkowitz (pp. 130-184).
2. Marsden, Peter V. 1987. "Core discussion networks of Americans." *American Sociological Review*, 52: 122-131.
3. McPherson, Miller, Smith-Lovin, Lynn, and Brashears, Matthew E. 2006. "Social Isolation in America: Changes in Core Discussion Networks over Two Decades." *American Sociological Review*, 71: 353-375.

### ***SECTION THREE – Application of Social Network Analysis in Sociology***

### **Week Nine – 17 March**

*Topic:* Substantive Readings: Instructor-Led (Possible topic: Health and Social Support)

*Due:* Homework 3

*Readings:* TBA

(Possible reading: Faber and Wasserman "Social Support and Social Networks" Chapter 2 in Levy and Pescosolido (pp. 29-72).)

### **Week Ten – 24 March**

*Topic:* Substantive Readings: Student-Led Class

*Readings:* TBA

### **Week Eleven – 31 March**

*Topic:* Substantive Readings: Student-Led Class  
*Readings:* TBA

**Week Twelve – 7 April**

*Topic:* Substantive Readings: Student-Led Class  
*Readings:* TBA

**Week Thirteen – 14 April**

*Topic:* Student Presentations; Wrap up.

***Final papers due: 28 April, noon, SS922.***

**Handing in Papers Outside of Class, Return of Final Papers, and Release of Final Grades**

1. When students are unable to submit papers at class, they should make arrangements to hand in their papers directly to the instructor or teaching assistant rather than at the Sociology Department main office.
2. Final papers will not be returned through the Sociology Department main office. The Freedom of Information and Protection of Privacy (FOIP) legislation disallows the practice of having students retrieve assignments from a public place, (i.e., outside an instructor's office, the department office, etc.). Students who want their final papers returned by mail must attach a stamped, self-addressed envelope with the paper. Otherwise final papers will only be available for pick-up during the instructor's office hours at the end of this term or the beginning of the next term.
3. Final grades are not posted by the Sociology department. They are only available online.

