

EMAC3343: Social Networks Spring 2013

Course Information

Instructor:	Cuihua (Cindy) Shen, Ph.D.
Class location:	CB3 1.306
Time:	Tues & Thurs 11:30am - 12:45pm
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Office Location:	ATEC 1.610
Office Hours:	Tuesday 10:00 - 11:15 am & by appointment
Course Website:	http://elearning.utdallas.edu

Email is the best way to contact me. Please begin your email subject heading with “**EMAC3343**” to ensure my prompt attention. I try to respond to student emails within 24 hours Monday through Friday.

Course readings, assignments and updated course schedule will be posted on the eLearning website. Students are encouraged to check eLearning at least once a week. (Tutorial here: www.utdallas.edu/elearning/students/eLearningTutorialsStudents.html).

Course Description

This course introduces the theoretical perspectives and practical applications of the study of social networks, which include (but are not limited to) friendship networks, political discussion networks, social support networks, organizational networks, disease transmission networks, and online social networks such as Facebook and Twitter. Students will have the opportunity to learn the basic network concepts and theories, such as network size, density, centrality, contagion, and diffusion. The emphasis of the course will be placed on the impact of emerging media and communication technologies on the creation, maintenance, and expansion of social networks. Although this course takes a non-mathematical approach, students will also be introduced to computer programs for computing and visualizing social networks.

Required Texts

- Christakis, N. A., & Fowler, J. H. (2011). *Connected: The surprising power of our social networks and how they shape our lives* (reprint ed.). New York: Back Bay Books.
 - In library course reserve, and available at most online bookstores.
- Hanneman, R., & Riddle, M. (2005). *Introduction to Social Network Methods*. Available at <http://faculty.ucr.edu/~hanneman/nettext/>.

In addition, various course readings will be posted to eLearning.

Learning objectives:

In this course, students will:

- become familiar with the fundamental concepts and theories of social networks.
- understand the basic social network analysis methods and techniques.
- learn to apply social network concepts to the design, analysis and evaluation of various social media applications.

Course Requirements

Attendance and Participation (25%) Class sessions will involve intensive discussions of assigned readings as well as individual and group activities. Therefore, participation and active discussion are essential for the success of this class. I expect you to come to every class fully prepared and ready to discuss critically about the readings. Try to connect the concepts and studies we cover in class with everyday life—how social networks function in your academic, professional and personal spheres. Be prepared to defend your position with examples, statistics and scientific studies. You are allowed one unexcused absence from the class without penalty. Thereafter, each unexcused absence costs 1% of the total grade. Having four unexcused absences costs 4% of the final score (i.e., a 90% drops to 86%). Absences beyond the fourth open the possibility that you may fail the course. Lateness is unacceptable, and will also be considered as an absence.

Individual Presentations (10%) At the beginning of every class, two students will each make a brief presentation of one or two articles, web pages, news events, videos and other media objects that are relevant to course topics. (Note: videos shown in class should be 5 minutes or less.) At the end of the semester, students will vote for the best in-class presentations and winners will receive extra credit.

Team Project - Social Media Review (25%) Students will collaborate in teams to deliver social media reviews during the second half of the semester. A social media review consists of a presentation that surveys the latest developments in a specific area of social media. The purpose of the report is to bring people up to speed about the social media landscape and also to engage the theories and concepts of this class. This report will be based on a substantive literature review, analytic research, and critical case studies of selected sites. The presentation itself will likely be around 15 - 25 minutes, followed by class discussion.

For example, a report of online dating communities provides an overview of the online dating market, including the brief history, major categories of sites/communities, latest trends, future forecast, as well as the key features and characteristics of several exemplary online dating sites. More important, a good report will also ask critical questions about the existing model and provide opportunities for in-depth discussion. Another example is boyd and Ellison's (2007) report on Social Network Sites ([link](#)).

Midterm Exam (10%) It is an in-class exam that draws upon the readings and lectures in class thus far. The exam generally includes 8 to 15 multiple choice questions and 5 to 8 fill in the blanks or short answer questions.

Final Exam (20%) The final exam is cumulative, covering readings and lectures throughout the entire semester. It should be noted that content presented in team social media reviews may also appear in the final.

Homework Assignments (10%) There will be a few homework assignments. These will include simple quantitative exercises, as well as essay questions, computer and web exercises. Details will be announced later in class.

This course uses the following grading scale:

A Range: Excellent	B Range: Good	C Range: Fair	D Range: Poor	F: Failing
A 94% to 100% A- 90 – 93%	B+ 87 – 89% B 83 – 86% B- 80 – 82%	C+ 77 – 79% C 73 – 76% C- 70 – 72%	D+ 67 – 69% D 63 – 66% D- 60 – 62%	F 59% and below

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

Course Schedule

(Note: All readings are to be completed BEFORE the class meeting on the date listed.)

Week 1

Tuesday (January 15) – Introduction and Overview

Thursday (January 17) - What is a social network?

- Christakis & Fowler. Chapter 1 [link](#)
- Hanneman & Riddle. Chapter 1

Week 2

Tuesday (January 22) – Small world I

- Gladwell, M. (1999). Six Degrees of Lois Weisberg. *The New Yorker* 74(41), 52-64. [link](#)
- Milgram, S. (1967). The small world problem. *Psychology Today*, 2(1), 60-67. [link](#)

Thursday (January 24) – Small World II

- Dodds, P. S., Muhamad, R., & Watts, D. J. (2003). An experimental study of search in global social networks. *Science*, 301(5634), 827-829.

Week 3

Tuesday (January 29) - Centrality, Power & Prestige

- Hanneman & Riddle. Chapter 10
- Valente, T. W., Unger, J. B., & Johnson, C. A. (2005). Do popular students smoke? The association between popularity and smoking among middle school students. *Journal of Adolescent Health*, 37(4), 323-329.

Thursday (January 31) - The Web and PageRank algorithm

- PageRank, Wikipedia [entry](#)
- How Google's Algorithm Rules the Web, [Wired](#)

Week 4

Tuesday (February 5) – Weak Ties

- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380.
- Burt, Ronald S. (2004). Structural holes and good ideas. *American Journal of Sociology*, 110(2), 349-399.

Thursday (February 7) – Social Capital

- Putnam, R. D. (2001). *Bowling alone : The collapse and revival of American community*. New York: Simon & Schuster. Chapters 1 & 13.

Week 5

Tuesday (February 12) - What do real networks look like?

- Anderson, C. (2004) The long tail. (article version [here](#))
- Power Law, Wikipedia [entry](#)

Thursday (February 14) – Network formation

- Barabasi, A.-L., & Albert, R. (1999). Emergence of scaling in random networks. *Science*, 286(5439), 509-512.
- Preferential Attachment, Wikipedia [entry](#)
- The Matthew Effect, Wikipedia [entry](#)

Week 6

Tuesday (February 19) – Homophily

- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 27, 415-444.
- Adamic, L. A., & Glance, N. (2005). The political blogosphere and the 2004 U.S. Election: Divided they blog. *Proceedings of the 3rd international workshop on link discovery* (pp. 36-43): ACM.

Thursday (February 21) – Social Contagion

- Christakis & Fowler – Chapters 2 and 3

Week 7

Tuesday (February 26) – Health Networks

- Christakis & Fowler – Chapter 4
- Christakis, N. A., & Fowler, J. H. (2007). The spread of obesity in a large social network over 32 years. *New England Journal of Medicine*, 357(4), 370-379.

Thursday (February 28) – Political Networks

- Christakis & Fowler. Chapter 6
- Bond, R. M., Fariss, C. J., Jones, J. J., Kramer, A. D. I., Marlow, C., Settle, J. E., et al. (2012). A 61-million-person experiment in social influence and political mobilization. *Nature*, 489(7415), 295-298.

Week 8

Tuesday (March 5) – Midterm Exam

Thursday (March 7) - Network Analysis & Visualization Workshop

- Hanneman & Riddle. Chapter 3-6, 10

Week 9 Spring Break

Week 10

Tuesday (March 19) – Online Networks

- boyd, “Social Network Sites as Networked Publics: Affordances, Dynamics, and Implications” in *A Networked Self*
- Dunbar, R. I. M. (1993). Coevolution of neocortical size, group size and language in humans. *Behavioral and brain sciences*, 16(4), 681-693. [link](#)

Thursday (March 21) - Community

- Oldenburg, R. (1997). The great good place: Cafés, coffee shops, community centers, beauty parlors, general stores, bars, hangouts, and how they get you through the day. New York: Marlowe & Company. Chapter 2.
- Christakis & Fowler. Chapter 8

Week 11

Tuesday (March 26) Social Capital revisited

- Ellison, Lamp, Steinfeld, and Vitak, “With a Little Help from My Friends: How Social Network Sites Affect Social Capital Processes”
- Resnick, P. (2001). Beyond bowling together: Sociotechnical capital. In J. Carroll (Ed.), *HCI in the new millennium* (pp. 647-672). New York: Addison-Wesley.

Thursday (March 28) - Diffusion and Tipping I

- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press. – Chapter 8 (pp.300-364)
- Markus, M. L. (1987). Toward a "Critical mass" Theory of interactive media. *Communication Research*, 14(5), 491-511.

Week 12

Tuesday (April 2) – Diffusion and Tipping II

- Cha, M., Haddadi, H., Benevenuto, F., & Gummadi, K. P. (2010). *Measuring user influence in twitter: The million follower fallacy*.
- Romero, D. M., Meeder, B., & Kleinberg, J. (2011). *Differences in the mechanics of information diffusion across topics: Idioms, political hashtags, and complex contagion on twitter*.

Thursday (April 4) – The echo chamber?

- Yardi, S., & Boyd, D. (2010). Dynamic debates: An analysis of group polarization over time on twitter. *Bulletin of Science, Technology & Society*, 30(5), 316-327.
- Group polarization, Wikipedia [entry](#)
- Selective exposure, Wikipedia [entry](#)

Week 13

Tuesday (April 9) – Collaboration

- Raymond, E. S. (1998). The cathedral and the bazaar. *First Monday*, 3(3) [link](#).
- Luther, K., & Bruckman, A. (2008). *Leadership in online creative collaboration*. Paper presented at the Proceedings of the 2008 ACM conference on Computer supported cooperative work, San Diego, CA, USA. [link](#)

Thursday (April 11) – Crowd-everything

- von Ahn, L., & Dabbish, L. (2008). Designing games with a purpose. *Communications of the ACM*, 51(8), 58-67.
- Cranshaw, J., & Kittur, A. (2011). *The polymath project: Lessons from a successful online collaboration in mathematics*. [link](#)

Week 14

Tuesday (April 16) – Going Mobile

- Rheingold, H. (2002). *Smart mobs: The next social revolution*. Cambridge, Massachusetts: Basic Books. Chapters 1 & 7.
- Humphreys, L. and Liao, T. (2011), Mobile Geotagging: Reexamining Our Interactions with Urban Space. *Journal of Computer-Mediated Communication*, 16: 407–423.

Thursday (April 18) – Other Reflections

- Turkle, S. (2007). Can You Hear Me Now? *Forbes*. Available at: http://www.forbes.com/free_forbes/2007/0507/176.html
- TBD

Week 15

Tuesday (April 23) – Social Media Review Presentation

Thursday (April 25) – Social Media Review Presentation

Week 16

Tuesday (April 30) – Social Media Review Presentation

Thursday (May 2) – Social Media Review Presentation

Week 17

Tuesday (May 7) - Final Exam

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the instructor.