Fall 2019

IS 333-001: Social Network Analysis

Hai Phan

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IS:333 Social Network Analysis

Course Description: In this intensely Java coding hands-on course, students will learn how to grab information from Facebook, and search the hidden useful information from the grabbed information by computer. Since the math formula is the only language that computers can understand, the goal of this class is to build the connection between human language and math formula, and prepare students better for advanced courses in data mining and business analytics. Taking this course requires students to have some basic statistical knowledge and Java programming skills.

Learning Goals:
1. Grab information from Facebook
2. Save and load network information from files in the disk
3. Use existing tools to visualize the network
4. Learn different methods for identifying important nodes
5. Learn different methods for identifying important relationships

Term: Fall 2019

Pre-requisites: CS 113 and Math 120

Instructor: Hai Phan
>   **Office:** GITC 5115
>   **Email:** phan@njit.edu
>   **Wegpage:** https://sites.google.com/site/ihaiphan/
>   **Office Hours:** Tuesday 4pm-5:30pm, Wednesday 4pm-5:30pm

Textbook: Social Network Analysis: History, Theory and Methodology. Christina Prell. Publication Date: November 9, 2011, ISBN-10: 1412947154, ISBN-13: 978-1412947152.

Reference: Mining the Social Web. Matthew A. Russell. 2013. O' Reilly. ISBN: 978-1-4493-6761-9.

Moodle: Additional material and resources will be found on the class website on Moodle, (http://moodle.njit.edu). It will be modified and updated as the course progresses and will contain the most recent information.

Schedule: The following is a tentative schedule and subject to change. Refer to class web page for most recent information.

Date	Topics	Reading
Week 1	Lecture: Introduction	
Week 2	Lecture: Social network representation	
Week 3	Programming: Connection with Facebook	
Week 4	Programming: Load and save data	
Week 5	Lecture: Node measures	
Week 6	Programming: Node measures	
Week 7	Lecture: Node measures	
Week 8	Programming: Node measures	
Week 9	Mid-term	
Week 10	Lecture: Relationship measures	
Week 11	Programming: Relationship measures	
Week 12	Lecture: Community Detection	
Week 13	Programming: Community Detection	
Week 14	Lecture: Simulation	
Week 15	Programming: Simulation	
Week 16	Final	

Table 1: The course schedule

Laboratory Sessions: This course does not have a separate laboratory session. However, some class meeting time throughout the semester will be dedicated to hands-on laboratory assignments. This work will be done using the computers in the classroom (if not, please bring your laptop). If necessary, laboratory assignments should be worked on outside the class time.

Credit: 3

Grade: Final Grades will be based on:

Homework	50%	50 points
Mid-term	20%	20 points
Final	20%	20 points
Participation in class	10%	10 points

The final letter grades for the semester are based solely on the points you earn according to Table 2.

Grade	Points
A	93-
B+	87-92
B	80-86
C+	70-79
C	60-69
D	50-59
F	0-49

Table 2: The final letter grade converting table

POLICIES:

Assignments (Homework and Project)

Not being able to finish the first homework will automatically dismiss you from the class!

Homework for this class is usually due about one week after being issued. Their purpose is to help you keep up with the material and assess your readiness for the midterm and final.

Homework is due before midnight (11:55pm) on the due date specified on the schedule. It will be submitted via Moodle electronically. Late homework will be penalized 10% of the available points (, and another 10% will be deducted for every 24-hour period after the original due date), unless there is a reason beyond your control.

Makeup Tests

Requests for makeup tests must be made in advance with the instructor and will only be approved if the reason is beyond your control.

Academic Integrity Policy

The NJIT academic honor code is located at: http://integrity.njit.edu/index.html. This honor code applies in its entirety to this class. Violations will not be tolerated. In addition, students should familiarize themselves with NJIT's "Best Practices related to Academic Integrity" which is developed and published on the Provost's website (on the policies page).

Disabilities

If you have a disability that may require some modification of seating, testing, or any other class requirement; please let the Professor know so that appropriate arrangements can be made. Similarly let the Professor know if you have any emergency medical information about which to be aware, or if you need special arrangements in the event of building evacuation. See the Professor after class hours or schedule an appointment. Assistance is available from the Office of Student Disability Services (205 Campbell Hall; 973-596-3420). Be sure and fill out appropriate paperwork with this office during the first week of class.