

## TIGP SNHCC 2021 Fall Syllabus

### Introduction to Social Networks ( SN )

**Place:** Room 101, New Building, IIS, AS / Delta Building, NTHU / Microsoft Team

**Time:** 9:00-12:00 Thurs or Fri

**Chair:** Dr. Yi-Shin Chen

**Outline:** The objective of this course is to assist students to understand the major concepts involved in social network analysis. Through lectures and lab assignments, students can obtain the ability to conduct research studies related to social networks. The subjects in this course are divided into the following themes:

- Introduction to graph theory
- Graph analysis: community detection, and graph embedding
- Social network analysis: link prediction and privacy in social networks
- User profiling and recommendation systems in social networks
- Text mining and analysis in social networks

**References:**

- Social Network Data Analytics, Charu C. Aggarwal (Ed.), Springer 2011
- Data Mining: Concepts and Techniques, J. Han, M. Kamber, and J. Pei, 3rd edition, Morgan Kaufmann, 2011.
- Introduction to Data Mining, P.N. Tan, M. Steinbach, and V. Kumar, Addison Wesley, 2006.

**TA: Office hours: by appointment**

**Grades: Exam 30%; Homework 20%; Paper Presentation 20%; Project 30%**

**For the most updated syllabus, please visit <https://tigpsnhcc.iis.sinica.edu.tw/course.html#s1>**

Week	Date	Topics/Brief Description	Lecturers
1	2021/09/16	Class Introduction	Yi-Shin Chen
2	2021/09/24	Introduction to Graph Theory (I)	Tung-Wei Kuo
3	2021/10/01	Introduction to Graph Theory (II)	Tung-Wei Kuo
4	2021/10/07	Social network analytics I	Mi-Yen Yeh
5	2021/10/14	Social network analytics II/ Project Announcement	Mi-Yen Yeh
6	2021/10/22	Paper Presentation	Tung-Wei Kuo
7	2021/10/28	Lab 1 / Homework 1 Python Tools for Graphs	Yi-Shin Chen
8	2021/11/04	Link Prediction	De-Nian Yang
9	2021/11/11	Privacy in Social Networks	De-Nian Yang
10	2021/11/19	Paper Presentation	Tung-Wei Kuo
11	2021/11/25	Lab2 / Homework 2: Python Tools for Text Mining	Yi-Shin Chen
12	2021/12/02	Text Mining in Social Networks (I) / Project Progress Report	Yi-Shin Chen
13	2021/12/09	Text Mining in Social Networks (II)	Yi-Shin Chen
14	2021/12/16	Recommendation Systems I / Project Progress Report	Ming-Feng Tsai

15	2021/12/23	Recommendation Systems II	Ming-Feng Tsai
16	2021/12/30	Exam	
17	2022/01/06	Prepare for Project	(no class)
18	2022/01/13	Project Presentation	DM Faculty
	2022/01/18	Prerequisite Exam on Statistics and Probability	De-Nian Yang