

**City University of Hong Kong  
Course Syllabus**

**offered by Department of Media and Communication  
with effect from Semester B 2023/24**

**Part I Course Overview**

**Course Title:** Social Network Analysis for Communication

**Course Code:** COM5506

**Course Duration:** One Semester

**Credit Units:** 3

**Level:** P5

**Medium of Instruction:** English

**Medium of Assessment:** English

**Prerequisites:**  
*(Course Code and Title)* Nil

**Precursors:**  
*(Course Code and Title)* Nil

**Equivalent Courses:**  
*(Course Code and Title)* Nil

**Exclusive Courses:**  
*(Course Code and Title)* Nil

## Part II Course Details

### 1. 1. Abstract

The course aims to help students develop “networking perspectives” that views entities of communication processes (e.g., communicators, audiences, media organizations, information messages, news events, regulatory agencies, etc.) as “network nodes” interconnected through direct or indirect, formal and informal, explicit or hidden ways. The course covers basic theories and research methods of social network analysis, with a variety of applications for communication purposes. Specific topics include human interactions over online friendship networks (e.g., Facebook, Google+, etc.), information diffusion through microblogging websites (e.g., Twitter, Weibo, etc.), cross-national flow of media content (news, entertainment, advertising, etc.), word of mouth and viral marketing, contagious models for health communication, and etc. Through individual exercises, group projects, class discussions, quiz, test, and other activities, students will learn how to design social network analysis studies, how to collect, integrate, analyse, and visualize social network data, and how to apply networking perspectives to solve real life issues in communication context.

### 2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	To describe and explain basic theoretical concepts and research methods of social and complex networks	30%	✓	✓	
2.	To collect, analyse, interpret, and visualize social network data for real life problems	25%	✓	✓	✓
3.	To apply theoretical perspectives and methodological approaches in social, business, or engineering contexts	25%	✓	✓	✓
4.	To present research findings and case studies in professional quality and style	20%	✓	✓	✓
		100%			

A1: Attitude

*Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.*

A2: Ability

*Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.*

A3: Accomplishments

*Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.*

### 3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.				Hours/week (if applicable)
		1	2	3	4	
Demonstration lectures	The instructor will present key concepts, theories, methods, tools, and application cases of social networks.	✓				
Hands-on Labs	Students develop and practice network research skills and software tools for social network analysis.		✓			
Class Discussions	Students will engage in debates on and exploration of the issues in social network analysis.			✓		
Group Work	Students work together to analyze research data and case studies that they have collected and present their findings in a collaboratively written report and in an oral presentation.				✓	
Quiz and Test	Student will need to demonstrate understanding of the main concepts and theories introduced in lectures.	✓	✓	✓	✓	

### 4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.				Weighting	Remarks
	1	2	3	4		
Continuous Assessment: 100%						
Quiz and Test	✓				50%	
In-class Exercises		✓			10%	
Research Project			✓		30%	
Project Presentation				✓	10%	
Examination: NA						
					100%	

## 5. Assessment Rubrics

*(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)*

Applicable to students admitted in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Quiz and Test	Ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Demonstrated excellent ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Demonstrated good ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Demonstrated basic ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Lack of ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments
2. In-class Exercises	Collecting social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results	Demonstrated excellent ability to collect social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results	Demonstrated good ability to collect social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results	Demonstrated basic ability to collect social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results	Lack of ability to collect social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results
3. Research Project	Based on individual or group research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the	Demonstrated excellent ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with	Demonstrated good ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with	Demonstrated basic ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with	Lack of ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with

	spelling, syntax, and grammatical structure of the paper	attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper
4. Project Presentation	Each student (group) is expected to present a research project and findings to the class	Demonstrated excellent ability to present a research project and findings to the class	Demonstrated good ability to present a research project and findings to the class	Demonstrated basic ability to present a research project and findings to the class	Lack of ability to present a research project and findings to the class

Applicable to students admitted before Semester A 2022/23

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Discussions and Quizzes	Focusing on key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Demonstrated excellent ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Demonstrated good ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Demonstrated basic ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Demonstrated poor ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments	Lack of ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments
2. Hands-on Exercises	Collecting social network data from various online data sources, performing network analysis of the collected data, and visualizing the	Demonstrated excellent ability to collect social network data from various online data sources,	Demonstrated good ability to collect social network data from various online data sources, performing network analysis of the	Demonstrated basic ability to collect social network data from various online data sources, performing network analysis of the	Demonstrated poor ability to collect social network data from various online data sources, performing	Lack of ability to collect social network data from various online data sources, performing

	analysis results	performing network analysis of the collected data, and visualizing the analysis results	collected data, and visualizing the analysis results	collected data, and visualizing the analysis results	network analysis of the collected data, and visualizing the analysis results	network analysis of the collected data, and visualizing the analysis results
3. Research Paper	Based on individual or group research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	Demonstrated excellent ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	Demonstrated good ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	Demonstrated basic ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	Demonstrated poor ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper	Lack of ability to conduct a research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper
4. Class Presentation	Each student (group) is expected to present a research project and findings to the class	Demonstrated excellent ability to present a research project and findings to the class	Demonstrated good ability to present a research project and findings to the class	Demonstrated basic ability to present a research project and findings to the class	Demonstrated poor ability to present a research project and findings to the class	Lack of ability to present a research project and findings to the class

### **Class assignments and Presentation (example as follows):**

- Quiz and Test: focusing on key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments.
- In-class exercises: collecting social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results
- Research project: based on individual or group research project on an approved topic using appropriate methods(s), following the appropriate academic style and requirements, with attention paid to the quality of writing, including the spelling, syntax, and grammatical structure of the paper.
- Project presentation: Each student (group) is expected to present a research project and findings to the class.

Specific grading criteria for selected assessment tasks/activities are as follows (example as follows):

Research paper and presentation:

- Quality of the ideas – originality, significance, etc.
- Appropriateness, logical coherence and clarity of the arguments and hypotheses
- Appropriateness of research method and clear description

Appropriateness of the analysis and the presentations of the results

- Thought-provoking discussions of the research findings and the significance of the study
- Format, style, writing and length of paper
- Presentational skills

Weighting of the different criteria and other details will be announced on the course website.

## Part III Other Information (more details can be provided separately in the teaching plan)

### 1. Keyword Syllabus

(An indication of the key topics of the course.)

Social networks, social media, social computing, big data, Web 2.0, user generated content, crowdsourcing, collective wisdom, online communities, information cascading, news diffusion, small world networks, scale free networks, power-law distribution, human dynamics, semantic networks, epidemic networks, health communication, social collaboration

#### Tentative Weekly Topics:

- 1 Introduction to networking perspectives
- 2 Node centrality and power
- 3 Random graph
- 4 Small world networks
- 5 Scale-free networks
- 6 Strength of weak ties
- 7 Community detection
- 8 Co-occurrence networks
- 9 Network data hypothesis testing
- 10 Data collection and visualization

### 2. Reading List

#### 2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	David Easley and Jon Kleinberg (2010). <i>Networks, crowds, and markets: Reasoning about a highly connected world</i> . Cambridge University Press.
2.	Robert A. Hanneman and Mark Riddle (2005). <i>Introduction to Social Network Methods</i> . Riverside, CA: University of California, Riverside.
3.	Maksim Tsvetovat and Alexander Kouznetsov (2011). <i>Social network analysis for startups</i> . O'Reilly.
4.	Wes McKinney (2013). <i>Python for data analysis</i> . O'Reilly