

# COM5506: SOCIAL NETWORK ANALYSIS FOR COMMUNICATION

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## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Social Network Analysis for Communication

### Subject Code

COM - Media and Communication

### Course Number

5506

### Academic Unit

Media and Communication (COM)

### College/School

College of Liberal Arts and Social Sciences (CH)

### Course Duration

One Semester

### Credit Units

3

### Level

P5, P6 - Postgraduate Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### 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, Wechat, 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.

This course will be a pilot course for blended learning approach promoted by the university. For some classes, students will need to watch a 1-2 hours lecture video prior coming to the class. Then student then join a 1-2 hours interactive classroom session where class discussion, class exercise, quiz, and lab session, etc. will be performed.

### Course Intended Learning Outcomes (CILOs)

| CILOs |                                                                                                              | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|-------|--------------------------------------------------------------------------------------------------------------|---------------------|--------|--------|--------|
| 1     | To describe and explain basic theoretical concepts and research methods of social and complex networks       | 30                  | x      | x      |        |
| 2     | To collect, analyse, interpret, and visualize social network data for real life problems                     | 25                  | x      | x      | x      |
| 3     | To apply theoretical perspectives and methodological approaches in social, business, or engineering contexts | 25                  | x      | x      | x      |
| 4     | To present research findings and case studies in professional quality and style                              | 20                  | x      | x      | x      |

#### 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 real-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.

### Learning and Teaching Activities (LTAs)

| LTAs |                           | Brief Description                                                                              | CILO No. | Hours/week (if applicable) |
|------|---------------------------|------------------------------------------------------------------------------------------------|----------|----------------------------|
| 1    | Classroom/online lectures | Students learn key concepts, theories, methods, tools and application cases of social networks | 1        |                            |

|   |                  |                                                                                                                                                                                       |            |  |
|---|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|
| 2 | Hands-on Labs    | Students develop and practice network research skills and software tools for social network analysis.                                                                                 | 2          |  |
| 3 | Class discussion | Students will engage in debates on and exploration of the issues in social network analysis.                                                                                          | 3          |  |
| 4 | 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. | 4          |  |
| 5 | Quiz and Test    | Student will need to demonstrate understanding of the main concepts and theories introduced in lectures.                                                                              | 1, 2, 3, 4 |  |

**Assessment Tasks / Activities (ATs)**

| ATs |                      | CILO No. | Weighting (%) | Remarks ("- " for nil entry)       | Allow Use of GenAI? |
|-----|----------------------|----------|---------------|------------------------------------|---------------------|
| 1   | Quiz and Test        | 1        | 50            | nil                                | No                  |
| 2   | In-class exercises   | 2        | 10            | nil                                | No                  |
| 3   | Research project     | 3        | 30            | Need to declare how GenAI is used. | Yes                 |
| 4   | Project Presentation | 4        | 10            | nil                                | No                  |

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Assessment Rubrics (AR)****Assessment Task**

1. Quiz and Test (for students admitted before Semester A 2022/23 and in Semester A 2024/25 &amp; thereafter)

**Criterion**

Focusing on key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Excellent**

(A+, A, A-) Demonstrated excellent ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Good**

(B+, B, B-) Demonstrated good ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Fair**

(C+, C, C-) Demonstrated basic ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Marginal**

(D) Demonstrated poor ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Failure**

(F) Lack of ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

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**Assessment Task**

2. In-class Exercises (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

**Criterion**

Collecting social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results

**Excellent**

(A+, A, A-) 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

**Good**

(B+, B, B-) 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

**Fair**

(C+, C, C-) 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

**Marginal**

(D) Demonstrated poor ability to collect social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results

**Failure**

(F) 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

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**Assessment Task**

3. Research Project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

**Criterion**

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

**Excellent**

(A+, A, A-) 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

**Good**

(B+, B, B-) 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

**Fair**

(C+, C, C-) 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

**Marginal**

(D) 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

**Failure**

(F) 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

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**Assessment Task**

4. Project Presentation (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

**Criterion**

Each student (group) is expected to present a research project and findings to the class

**Excellent**

(A+, A, A-) Demonstrated excellent ability to present a research project and findings to the class

**Good**

(B+, B, B-) Demonstrated good ability to present a research project and findings to the class

**Fair**

(C+, C, C-) Demonstrated basic ability to present a research project and findings to the class

**Marginal**

(D) Demonstrated poor ability to present a research project and findings to the class

**Failure**

(F) Lack of ability to present a research project and findings to the class

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**Assessment Task**

1. Quiz and Test (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Criterion**

Ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Excellent**

(A+, A, A-) Demonstrated excellent ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Good**

(B+, B) Demonstrated good ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Marginal**

(B-, C+, C) Demonstrated basic ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

**Failure**

(F) Lack of ability to analyse and critique key conceptual, empirical, and application issues of social network analysis based on readings, lectures, and other assignments

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**Assessment Task**

2. In-class Exercises (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Criterion**

Collecting social network data from various online data sources, performing network analysis of the collected data, and visualizing the analysis results

**Excellent**

(A+, A, A-) 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

**Good**

(B+, B) 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

**Marginal**

(B-, C+, C) 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

**Failure**

(F) 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

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**Assessment Task**

3. Research Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Criterion**

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

**Excellent**

(A+, A, A-) 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

### **Good**

(B+, B) 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

### **Marginal**

(B-, C+, C) 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

### **Failure**

(F) 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

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## **Assessment Task**

4. Project Presentation (for students admitted from Semester A 2022/23 to Summer Term 2024)

### **Criterion**

Each student (group) is expected to present a research project and findings to the class

### **Excellent**

(A+, A, A-) Demonstrated excellent ability to present a research project and findings to the class

### **Good**

(B+, B) Demonstrated good ability to present a research project and findings to the class

### **Marginal**

(B-, C+, C) Demonstrated basic ability to present a research project and findings to the class

### **Failure**

(F) Lack of ability to present a research project and findings to the class

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## **Additional Information for AR**

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

### Keyword Syllabus

Social networks, social media, social computing, big data, 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

### Reading List

#### Compulsory Readings

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