GE2234: SOCIAL NETWORKS FOR MEDIA, BUSINESS AND TECHNOLOGICAL APPLICATIONS

Effective Term

Semester A 2022/23

Part I Course Overview

Course Title

Social Networks for Media, Business and Technological Applications

Subject Code

GE - Gateway Education

Course Number

2234

Academic Unit

Media and Communication (COM)

College/School

College of Liberal Arts and Social Sciences (CH)

Course Duration

One Semester

Credit Units

3

Level

A1, A2 - Associate Degree
B1, B2, B3, B4 - Bachelor's Degree

GE Area (Primary)

Area 2 - Study of Societies, Social and Business Organisations

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 thinking" that views people, organizations, events, and anything else around us as "network nodes" interconnected in some meaningful ways. The course covers a variety of networks in mass media, business, and technological contexts. Specific topics include human interactions over online social networking sites, spatial flow of media content, networking approach to the creation of artistic works, word of mouth and viral marketing, business networks, supplies chain management, the Internet of Things, networking traffic based on human behavioural dynamics, contagious models for prevention of human diseases and computer virus, and etc. Through individual exercises, group projects, class discussions, and other activities, the students will learn how to apply the networking perspectives to real life issues. The broad range of the practical issues makes the course relevant to students from almost all disciplines such as social sciences, business, humanities, arts, engineering, and sciences.

Course Aims

This course aims to introduce basic theoretical perspectives and research methods of social networks and their applications for a wide range of networking contexts such as media and communication networks (e.g., flows of news, entertainment, advertising, and public relations, online communities, etc.), business networks (e.g., viral marketing, business operations, etc.), and engineering networks (networking usage traffic, contagious human disease and computer virus, transportation systems, etc.). The students will be exposed to an interdisciplinary body of knowledge involving sciences, engineering, social sciences, and business studies. In addition, the students will carry out hands-on exercises, case studies, and group projects. At the end of the course, the students will gain not only intellectual knowledge, but also practical skills for scientific inquiry, critical thinking, problem solving, teamwork, and professional presentation to address networking issues. The knowledge and skills will also enable the students to help enhance human experience and life quality in the contemporary networked society.

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		
2	To collect, analyse, interpret, discover, and visualize social network data for real life problems	25	x	x	
3	To apply theoretical perspectives and methodological approaches in social, business, or engineering contexts	25		x	x
4	To present research findings, discoveries, and case studies in professional quality and style	20		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.

Teaching and Learning Activities (TLAs)

	TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Demonstration lectures	The instructor will present key concepts, methods, and classic examples of social and complex networks to illustrate how networking perspectives can be used to help	1, 2	
2	Guest Speeches	Invited experts share their insights on trends, opportunities and challenges of applying network theories and methods to key application areas (e.g., medical and marketing).	1, 3	
3	Hands-on Labs	Students develop and practice network research skills and software tools as covered in lectures in weeks 2 and 3 on "Theories and Methods of Social Network Analysis" and "Theories and Methods of Complex Networks". The labs include tasks such as i) collecting social network data from various online data sources (e.g., website traffics, financial transactions, news flow, etc.), ii) performing network analysis of the collected data, and iii) visualizing the analysis results.	2, 4	
4	Class Discussions	Students will engage in debates on and exploration of the issues discussed in each lecture.	1, 2	

| 5 | 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. The group work differs from the hands-on labs in that the former requires students to initiate a topic (based on a substantial domain as covered in Weeks 4-13) and design a full-scale investigation whereas the latter involves a series of small-scale exercises given by the instructors. The group work is expected to integrate theoretical issues and methodological solutions whereas the labs focus on methodological skills. | 3, 4 | |

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Individual Exercises (See Labs in TLA)	1, 2, 4	30	Students will work independently to solve 3-4 sets of analytical or empirical questions (e.g., structure and characteristics of given social networks), to demonstrate ability to apply networking theories and methods.
2	Group Project and Presentation (see Group Work in TLA)	3, 4	30	Students will work together to a) identify a real life problem in which social networks play an important role; b) collect necessary and relevant data to test possible effects of networking factors on the problem; c) produce a research report based on the case study, and d) present the results to class.

3	In-class Quizzes	1, 2	30	Quizzes will test students' facility with theoretical concepts and analytical skills from lectures, readings, and research project.
4	Participation in discussions	1, 2, 3	10	Marks will be assigned based on the frequency and content of class participations.

Continuous Assessment (%)
100

Examination (%)
0

Assessment Rubrics (AR)

Assessment Task
Exercises

Criterion
Abilities to analyze and visualize social network data

Excellent (A+, A, A-)
High (present thorough analysis quantitatively and visually; fully understanding on the concepts and methods)

Good (B+, B, B-)
Significant(present careful analysis quantitatively and visually; clear understanding on the concepts and theories)

Fair (C+, C, C-)
Moderate(present quantitative and visual analysis; understanding on the concepts and theories)

Marginal (D)
Basic(present minimal understanding on the concepts and theories)

Failure (F)
Failing to reach marginal levels

Assessment Task
Group project

Criterion
Capacity for define real world questions, collect and analyze the relevant data, and interpret and present the results in a professional manner

Excellent (A+, A, A-)
High (demonstrate high capacity in all phases of the project)

Good (B+, B, B-)
Significant (present reasonable capacity in major phases of the project)

Fair (C+, C, C-)
Moderate (present reasonable capacity in phases of the project

Marginal (D)
Basic (present basic capacity of some phases of the project)

Failure (F)
Failing to reach marginal levels

Assessment Task
Quiz

Criterion
Knowledge of social network theory and its applications to media, business, and technological sectors

Excellent (A+, A, A-)
High (demonstrate high insights to all theory and applications)

Good (B+, B, B-)
Significant (demonstrate reasonable insights to most theory and applications)

Fair (C+, C, C-)
Moderate (demonstrate reasonable knowledge of theory and applications)

Marginal (D)
Basic (demonstrate basic knowledge of some theory and applications)

Failure (F)
Failing to reach marginal levels

Assessment Task
Participation in discussions

Criterion
Attitudes for active learning and participation and abilities to communicate effectively

Excellent (A+, A, A-)
High (always attend the class; actively participate in class discussion; have high motivation to share thoughts and insights)

Good (B+, B, B-)
Significant (attend the class; frequently participate in class activities)

Fair (C+, C, C-)
Moderate (attend the class; occasionally participate in class activities)

Marginal (D)
Basic (attend the class; barely active in class)

Failure (F)
Failing to reachmarginal levels(do not attend the class; do not participate in class activities)

Part III Other Information

Keyword Syllabus

Social networks, social media, social computing, Web 2.0, social networking sites, online communities, media content flow, user recommendations, word of mouth, viral marketing, business networks, supplies chain management, Internet of Things, complex networks, small world, scale free, power-law distribution, human dynamics, semantic networks, network-generated arts, contagious disease prevention, computer virus/spam prevention, scientific collaboration

Reading List

Compulsory Readings

	Title
1	David Easley and Jon Kleinberg (2010). Networks, crowds, and markets: Reasoning about a highly connected world. Cambridge University Press.
2	Web Mining Lab, Department of Media and Communication, City University of Hong Kong (http://weblab.com.cityu.edu.hk)
3	Centre for Chaos and Complex Networks, Department of Electronic Engineering, City University of Hong Kong (http://www.ee.cityu.edu.hk/~cccn/)
4	International Networks for Social Network Analysis (http://www.insna.org)
5	NetWiki, University of North Carolina (http://netwiki.amath.unc.edu/Main/HomePage)
6	Huddle – Social Networking for Business (http://webappsdepot.vitorneves.com/2009/09/01/huddle-social-networking-for-busines/)

Additional Readings

	Title
1	John Scott (2009). Social network analysis: A handbook, 2nd edition. Sage Publications.
2	Stanley Wasserman and Katherine Faust (1995). Social network analysis: Methods and applications. Cambridge University Press.
3	Peter R. Monge and Noshir S. Contractor (2003). Theories of communication networks. Oxford University Press.
4	Robert L. Cross and Andrew Parker (2004). The hidden power of social networks: understanding how work really gets done in organizations. Harvard Business School Press and Oxford University Press.
5	Guanrong Chen (in press). Introduction to complex networks. Higher Education Publisher of China.
6	Albert-László Barabási (2003). Linked: How everything is connected to everything else and what it means for business, science, and everyday life. Plumb Books.
7	Albert-László Barabási (2010). Bursts: The hidden pattern behind everything we do. Dutton Books.

Annex (for GE courses only)

A. Please specify the Gateway Education Programme Intended Learning Outcomes (PILOs) that the course is aligned to and relate them to the CILOs stated in Part II, Section 2 of this form:

Please indicate which CILO(s) is/are related to this PILO, if any (can be more than one CILOs in each PILO)

PILO 1: Demonstrate the capacity for self-directed learning

1, 3

PILO 2: Explain the basic methodologies and techniques of inquiry of the arts and humanities, social sciences, business, and science and technology

2, 3, 4

PILO 3: Demonstrate critical thinking skills

1, 2, 3, 4

PILO 4: Interpret information and numerical data

3, 4

PILO 5: Produce structured, well-organised and fluent text

2, 3, 4

PILO 6: Demonstrate effective oral communication skills

2, 3, 4

PILO 7: Demonstrate an ability to work effectively in a team

2, 3, 4

PILO 8: Recognise important characteristics of their own culture(s) and at least one other culture, and their impact on global issues

1, 2, 3, 4

PILO 9: Value ethical and socially responsible actions

1, 2, 3, 4

PILO 10: Demonstrate the attitude and/or ability to accomplish discovery and/or innovation

1, 2, 3, 4

B. Please select an assessment task for collecting evidence of student achievement for quality assurance purposes. Please retain at least one sample of student achievement across a period of three years.

Selected Assessment Task

Group Project and Presentation