SS4571: DIGITAL SOCIOLOGY AND BIG DATA RESEARCH

Effective Term
Semester A 2024/25

Part I Course Overview

Course Title
Digital Sociology and Big Data Research

Subject Code
SS - Social and Behavioural Sciences
Course Number
4571

Academic Unit
Social and Behavioural Sciences (SS)

College/School
College of Liberal Arts and Social Sciences (CH)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

Digital innovation is enabling new ways of knowing society, from online surveillance to behavioural analytics and real-time research. Big data is also perceived as transforming science and social science. These new forms of computational social science have sparked intense debates across disciplines including sociology, computing and data science in recent years. This course will provide an overview of these debates, and offers an introduction to the key epistemic, methodological and normative issues they raise. Students will have hands-on experience, through workshops sessions to experiment with digital methods in order to imagine new ways of practicing sociology with technology.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the basic concepts related to digital sociology.		x	x	x
2	Explain different key methodological and epistemological challenges involved in conducting social research with big data.		x	x	x
3	Identify the ways in which big data problematise core methodological issues in research.		x	x	x
4	Apply general issues involved in doing research with big data to more specific thematic areas of study (e.g. politics, sports, health, etc.).		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	LTA1: Lecture	Students will engage in lecture activities about key issues in digital sociology, including rise of social media, participation, new analytics, inter-disciplinarily, public controversies about digital ways of knowing.	1, 2, 3, 4	

2	LTA2: Workshop	In workshop, students will engage in discussions about digital sociology in practice. This will include sessions with practice-based understanding on the usage of big data tools for conducting experiments related to digital social research.	2, 3, 4	
3	LTA3: Class discussion	The class discussion will engage students in vibrant class discussions about digital sociology in class. The discussion is pertinent to the lessons taught.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	AT1: Workshop Exercises	1, 2, 3, 4	20	
2	AT2: Group Project	1, 2, 3, 4	40	
3	AT3: Term Paper	1, 2, 3, 4	40	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task

1. Workshop Exercises

Criterion

Understanding of the skills and techniques accurately.

Excellent (A+, A, A-)

Accurate implementations of the analysis and skilfully present the results and findings.

Good (B+, B, B-)

With minor mistakes in analysis and presentation.

Fair (C+, C, C-)

With major mistakes in analysis and presentation.

Marginal (D)

With significant mistakes. But demonstrated adequate effort.

Failure (F)

Does not demonstrate the minimum expectation.

Assessment Task
2. Group Project

Criterion
Articulation of theory, findings, and conclusion coherently.

Excellent (A+, A, A-)
An excellent project# very good mastery of the ideas or concepts, with excellent or innovative analysis and presentation of ideas.

Good (B+, B, B-)
With reasonably good analysis and presentation.

Fair (C+, C, C-)
Demonstrating effort that adequate for a passing grade, but with enough flaws and shortcomings.

Marginal (D)
Barely a pass. Many serious flaws and shortcomings, but adequate effort and some research

Failure (F)
Does not demonstrate the minimum expectation.

Assessment Task
3. Term Paper

Criterion
Critically discuss the identified issue and manage to recognise and apply the theory accurately.

Excellent (A+, A, A-)
An excellent paper# very good mastery of the ideas or concepts, with excellent or innovative analysis.

Good (B+, B, B-)
A solid paper with reasonably good analysis

Fair (C+, C, C-)
Demonstrating effort that adequate for a passing grade, but with enough flaws and shortcomings.

Marginal (D)
Barely a pass. Many serious flaws and shortcomings, but adequate effort and some research

Failure (F)
Does not demonstrate the minimum research effort.

Part III Other Information

Keyword Syllabus
1. Algorithm
2. Big data
3. Privacy
4. Computational social science
5. Culture of connectivity
6. Data mining

7. Digital social research
8. Digital sociology
9. Digital world
10. Machine learning
11. Social media

Reading List

Compulsory Readings

	Title
1	Conte, R., Gilbert, N., Bonelli, G., Cioffi-Revilla, C., Deffuant, G., Kertesz, J., et al. (2012). Manifesto of computational social science. The European Physical Journal Special Topics, 214(1), 325-346.
2	Edwards, A., Housley, W., Williams, M., Sloan, L., & Williams, M. (2013). Digital social research, social media and the sociological imagination: Surrogacy, augmentation and re-orientation. International Journal of Social Research Methodology, 16(3), 245-260.
3	Halavais, A. (2015). Bigger sociological imaginations: framing big social data theory and methods. Information, Communication & Society, 18(5), 583-594.
4	Lupton, D. (2015) “Introduction: Life is Digital”, “Reconceptualizing Research in the Digital Era”, Chapter 1 and 3, in: Digital Sociology, London and New York: Routledge.
5	Mützel, S. (2015). Facing Big Data: Making sociology relevant. Big Data & Society, 2(2).
6	Tinati, R., Halford, S., Carr, L. and Pope, C. (2014). Big Data: Methodological Challenges and Approaches for Sociological Analysis. Sociology: The Journal of the British Sociological Association, 48(4): 663-681.
7	Wagner-Pacifici, R., Mohr, J. W., & Breiger, R. L. (2015). Ontologies, methodologies, and new uses of Big Data in the social and cultural sciences. Big Data & Society, 2(2).

Additional Readings

	Title
1	Andrejevic, M. (2014). Big Data, Big Questions: The Big Data Divide. International Journal of Communication, 8, 17.
2	Back, L. (2012). Live sociology: social research and its futures. The Sociological Review, 60(S1), 18-39.
3	Boyd, D., & Crawford, K. (2012). Critical questions for big data: Provocations for a cultural, technological, and scholarly phenomenon. Information, communication &society, 15(5), 662-679.
4	Bruns, A., & Stieglitz, S. (2012). Quantitative approaches to comparing communication patterns on Twitter. Journal of Technology in Human Services, 30(3-4), 160-185.
5	Bucher, T. (2012). Want to be on the top? Algorithmic power and the threat of invisibility on Facebook. New Media & Society, 14(7), 1164-1180.
6	Daniels, J., Gregory, K., McMillan Cottom, T. (2016) Digital Sociologies. Bristol: Policy Press.
7	Fung, S. (2019). Cross-cultural validation of the Social Media Disorder scale. Psychology Research and Behavior Management, 12: 683-690.
8	Ji, S., Yu, C., Fung, S., Pan, S. & Long, G. (2018). Supervised Learning for Suicidal Ideation Detection in Online. Complexity 2018, 6157249.
9	Kennedy, H., & Moss, G. (2015). Known or knowing publics? Social media data mining and the question of public agency. Big Data & Society, 2(2): 2053951715611145.
10	Kitchin, R. (2014). The data revolution: Big data, open data, data infrastructures and their consequences. London: Sage.
11	Langlois, G., Elmer, G., McKelvey, F., & Devereaux, Z. (2009). Networked publics: The double articulation of code and politics on Facebook. Canadian Journal of Communication, 34(3), pp. 415-434.
12	Mackenzie, A., Mills, R., Sharples, S., Fuller, M., & Goffey, A. (2015). Digital sociology in the field of devices. Routledge International Handbook of the Sociology of Art and Culture, L. Hanquinet and M Savage (Eds). London: Routledge: pp. 367-382.

13	Marres, N. (2017). What makes digital technologies social? Chapter 2, in: Digital Sociology: The Reinvention of Social Research. Cambridge: Polity.
14	Orton-Johnson, K. and N. Prior (Eds) (2013) Critical Perspectives in Digital Sociology, Palgrave MacMillan, Basingstoke.
15	Papacharissi, Z. (2010). A Private Sphere: Democracy in a Digital Age. Cambridge: Polity Press.
16	Ruppert, E., Law, J., & Savage, M. (2013). Reassembling social science methods: The challenge of digital devices. Theory, Culture & Society, 30(4), 22-46.
17	Snee, H, Ch. Hine et al (2015) Digital Methods for Social Science: An Interdisciplinary Guide to Research Innovation. Basingstoke: Palgrave.
18	Uprichard, E. (2012). Being stuck in (live) time: the sticky sociological imagination. The Sociological Review, 60(S1), 124-138.