SDSC4011: EXPERIMENTAL RESEARCH FOR SOCIAL MEDIA

Effective Term
Semester A 2023/24

Part I Course Overview

Course Title
Experimental Research for Social Media

Subject Code
SDSC - School of Data Science

Course Number
4011

Academic Unit
School of Data Science (DS)

College/School
School of Data Science (DS)

Course Duration
One Semester

Credit Units
3

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

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
SDSC1001 Introduction to Data Science* and SDSC2001 Python for Data Science

*Pre-requisite SDSC1001 will be exempted for students who are enrolled in Minor in Data Science

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

This course provides students with an extensive exposure to the elements of experimental research for social media. Topics include causal inference, interval validity, external validity, controlled experiment, field experiment, online experiment, randomization, between-subjects design, within-subjects design, stimulus manipulation, response measurement, briefing, massive online collaboration, and ethical considerations for "made data" (i.e., created for research purposes).

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Explain clearly fundamental principles and methods of experimental research for social media	20	x		
2	Classify various experimental designs on human subjects	20	x	x	
3	Evaluate existing practices in experiments for social media and seek ways to improve the existing studies	30	x	x	x
4	Apply appropriate experimental methods to solve given practical problems for social media	30	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.

Teaching and Learning Activities (TLAs)

	TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Learning through teaching is primarily based on lectures.	1, 2, 3, 4	39 hours in total
2	Case studies	Describe and critique classic cases of experimental research for social media.	1, 2, 3, 4	in or after classes

3	Take-home assignments	Learning through in-class or take-home assignments is primarily based on interactive problem solving and hands-on exercises allowing instant feedback.	1, 2, 3, 4	in or after class

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Test	1, 2, 3, 4	15	Questions are designed for basic experiment design to see how well the students have learned fundamental concepts methods, and applications of experimental research.
2	Hands-in assignments (presentations)	3, 4	35	These are skills based assessment to enable students to demonstrate the basic concepts, and methods of online experiment, and applications of experimental design in some applications.

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Additional Information for ATs

Note: To pass the course, apart from obtaining a minimum of 40% in the overall mark, a student must also obtain a minimum mark of 30% in both continuous assessment and examination components.

Assessment Rubrics (AR)

Assessment Task

Test

Criterion

Ability to understand and apply fundamental principles and methods of experimental research.

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
Hands-in assignments (presentations)

Criterion
Ability to learn the basic concepts, apply methods of experimental design, and develop applications of experiment.

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
Examination

Criterion
Ability to solve learning tasks using experimental methods.

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

Causal inference, interval validity, external validity, controlled experiment, field experiment, online experiment, randomization, control group, between-subjects design, within-subjects design, stimulus manipulation, response measurement, manipulation check, briefing, massive online collaboration, ethical considerations for experiments on human subjects

Reading List

Compulsory Readings

	Title
1	Laboratory experiments in the social sciences, by Murry Webster & Jane Sell (Eds.), Elsevier, 2014.
2	Psychological experiment on the internet, by Michael Birnbaum, Academic Press, 2000

Additional Readings

	Title
1	Nil