

HONG KONG BAPTIST UNIVERSITY

COURSE OUTLINE

1. COURSE TITLE

Big Data Analytics for Media and Communication

2. COURSE CODE

COMM7780

3. NO. OF UNITS

3 Units

4. OFFERING DEPARTMENT

MA in Communication

5. PREREQUISITES

Nil

6. MEDIUM OF INSTRUCTION

English

7. AIMS & OBJECTIVES

This course aims to introduce the fundamental knowledge and hands-on skills of big data analytics in the field of media and communication. Special focus will be placed on techniques for searching, collecting, analyzing, interpreting, and visualizing data. Technical details include, but not limited to, web crawling, data storage, data analysis, text mining, social network analysis, and data visualization, based on open source software packages. Through a variety of teaching learning activities, such as class demonstrations, individual exercises, quizzes, collaborative projects, and guest lectures, by the end of the semester, students are expected to become capable to collect big data from different data sources, i.e., social media harvesting, web scraping, online archiving or indexing data retrieving, with open source software packages. Students are also expected to produce socially, culturally, or commercially meaningful data-driven narrative outputs, such as data-driven journalistic report, data visualization, data-driven business analysis, and computational social science research reports. Meanwhile, critical reflection on the overuse and abuse of big data and relevant ethical and legal controversies will be discussed throughout the semester as well.

8. COURSE CONTENT

Overview: big data and media communication: theories, methods, and applications

Getting started: quick guides to R, Python, and other open source packages

Data Collection and Storage

- Where and how to find appropriate data
- Government and public open data
- Data collection tools, application programming interface (API)
- Web scrapping
- Social media harvesting
- Data storage

Data Analysis and Interpretation

- Principles in data interpretation
- Data cleaning
- Descriptive statistics and plotting tools
- Fundamental social network analysis
- Fundamental natural language processing
- Text mining, sentiment analysis, topic modelling
- Fundamental spatial analysis

Data-driven Story-telling: Applications and Case Studies

- Data visualization
- Interactive infographics
- Data-driven investigative report
- Data-driven consumer insights
- Big data in art and humanities

Critical Reflections

- The hazard of overuse/abuse data
- Big data and privacy protection
- Big data and surveillance society
- Big data and journalistic professionalism, press freedom, FOIA, legal issues

9. COURSE INTENDED LEARNING OUTCOMES (CILOs)

CILO	By the end of the course, students should be able to:
CILO 1	Describe big data analytics tools and applications in media and communication
CILO 2	Relate global and local cases involving big data analytics in solving practical problems in media and communication
CILO 3	Use big data from different online sources
CILO 4	Analyse data and interpret the results to offer solutions to journalistic, commercial, and research problems
CILO 5	Explain the hazard of abusing big data the potential ethical and legal controversies of big data

10. TEACHING & LEARNING ACTIVITIES (TLAs)

CILO alignment	Type of TLA
CILO 1, 2, 5	Students will learn the concepts and techniques via lectures, in-class discussions, quizzes, and assignments.
CILO 3, 4,	Students will learn the skills via group projects.

11. ASSESSMENT METHODS (AMs)

Type of Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
Continuous assessment	25 %	1, 2, 5	Continuous assessments include class attendance and quizzes, which are designed to measure how well the students have learned the concepts and techniques in big data analytics as well as the skills for solving real-world big-data problems.
Assignments	35 %	2, 3, 4, 5	Assignments are designed to evaluate students' knowledge and skills on big data analytics techniques.
Group project	40 %	2, 3, 4	The group project is designed to see how far students have achieved their intended learning outcomes. Analysis based questions will be used to assess the understanding of big data analytics concepts and techniques in media and communication. Problem solving questions will be used to assess the students' ability in tackling applications in big data analytics in media and communication.

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