HONG KONG BAPTIST UNIVERSITY
COURSE OUTLINE

1. COURSE TITLE

Recommender Systems

2. COURSE CODE

COMP7240

3. NO. OF UNITS

3 Units

4. OFFERING DEPARTMENT

Master of Science in Data Analytics and Artificial Intelligence

5. PREREQUISITES

Postgraduate Student Standing

6. MEDIUM OF INSTRUCTION

English

7. AIMS & OBJECTIVES

In the current age of information overload, recommender systems offer personalized access for users to efficiently search information and make choices online. This course introduces recommender systems' major concepts, methodologies, evaluation design, and user experiences. A variety of real-world applications are included, such as those deployed in e-commerce sites and social networks.

8. COURSE CONTENT

I. Basic concepts of recommender systems
- User preference and ratings
- Prediction
- Taxonomy of recommenders

II. Recommendation algorithms
- Collaborative filtering
- Matrix Factorization
- Content-based recommendation

- Others

III. Algorithm evaluation and metrics
- Experiment design
- Prediction accuracy metrics
- Rank-aware top-N metrics

IV. User experiences
- Human factors in system design
- User-centered evaluation

V. Applications
- E-commerce websites
- Social networks
- Others (e.g., news, healthcare, etc.)

9. COURSE INTENDED LEARNING OUTCOMES (CILOs)

CILO	By the end of the course, students should be able to:
CILO 1	Describe basic concepts behind recommender systems
CILO 2	Explain a variety of approaches for building recommender systems
CILO 3	Describe system evaluation methods from both algorithmic and users' perspectives
CILO 4	Describe applications of recommender systems in various domains
CILO 5	Reproduce recommender algorithms using an open source toolkit
CILO 6	Conduct experimental evaluations on implemented algorithms

10. TEACHING & LEARNING ACTIVITIES (TLAs)

CILO alignment	Type of TLA
1-4	Students will learn major concepts of and techniques for building and evaluating recommender systems.
5-6	Students will gain practical experiences via laboratory sessions and assignments.

11. ASSESSMENT METHODS (AMs)

Type of Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
Continuous Assessment	50 %	1-6	Continuous assignments are designed to measure how well students have learnt the

			fundamentals of recommender system implementation and evaluation. Assignments and lab exercises are designed to evaluate students' knowledge and skills.
Examination	50 %	1-4	Final examination questions are designed to identify how far students have achieved intended learning outcomes. Questions will primarily assess students' knowledge in recommender systems.

Last Update: 2021-06-10
Published Date: 2021-06-30

***** END *****