Master of Science (MSc) Program in Big Data Technology

Program Director:

Lei CHEN, Associate Professor of Computer Science and Engineering

The program, jointly offered by the Department of Computer Science and Engineering and the Department of Mathematics, is aimed at educating students about big data and issues related to big data. The students are expected to be familiar with the workflow of big data systems and social and societal implications of big data systems. Big data is poised to change the way enterprises function and a society operates, and is changing the way engineering and science is conducted. The Big Data Technology program will allow students to know all the important aspects of the big data and how it is used in the real world.

Admission Requirements

Applicants must possess a bachelor's degree in Computer Engineering, Computer Science, Mathematics or a related field from a recognized university or tertiary institution. Applicants with a bachelor's degree in other disciplines must have relevant working experience in IT and Mathematics related fields.

Program Duration

The program is offered in both full-time and part-time modes. The normal period for completion is one year in full-time mode and two years in part-time mode.

Program Fee

The program fee for the 2016-17 intake is HK$150,000.

Curriculum

Students must complete 30 credits of coursework, with 12 credits of core courses and 18 credits of elective courses. Students shall take ten 3-credit taught courses or eight to nine 3-credit taught courses plus independent project(s) offered from the program.

a) <u>Core courses (12 credits)</u>

MSBD 5001	Foundations of Data Analytics
MSBD 5002	Data Mining and Knowledge Discovery (Co-Listing with CSIT 5210)
MSBD 5003	Big Data Computing
MSBD 5004	Mathematical Methods for Data Analysis

b) <u>Elective courses (18 credits)</u>

MSBD 5005	Data Visualization
MSBD 5006	Quantitative Analysis of Financial Time Series (Co-Listing with MAFS 5130)
MSBD 5007	Optimization and Matrix Computation

MSBD 5008	Introduction to Social Computing
MSBD 5009	Parallel Programming
MSBD 5010	Imaging Data Analytics and Pattern Recognition
MSBD 5011	Advanced Statistics: Theory and Applications
MSBD 5012	Machine Learning
MSBD 5013	Statistical Prediction
MSBD 5014	Independent Project

Subject to the approval of the Program Director, students may take a maximum of 6 credits of CSIT courses from the MSc program in Information Technology as partial fulfillment of the graduation requirements of the program.

Part-time students may take a maximum of 9 credits each term.

Credit Transfer

Credit transfer may be granted to students in recognition of studies completed successfully elsewhere. Upon the approval of the Program Director, a maximum of 9 credits can be transferred from other institutions to the program, subject to University regulations governing credit transfer for postgraduate programs.

Graduation Requirements

A student must complete the program with a graduation grade average (GGA) of 2.850 or above as required of all postgraduate students at the University.