

Major in Computing and Data Analytics (4-Year Curriculum)

jointly offered by the Department of Computer Science and Department of Statistics & Actuarial Science

The curriculum comprises 96 credits with the following structure:

Prerequisite:

- Level 3 or above in HKDSE Mathematics
- Level 3 or above in HKDSE Physics or Combined Science with Physics component

General Engineering Courses (18 credits)

Course Code	Course Title	No. of credits
COMP2121	Discrete mathematics	6
ENGG1111/ ENGG1112	Computer programming and applications # Computer programming and applications I	6
MATH1013	University mathematics II*	6
Total for General Engineering Courses		18

Non-BEng students are required to complete COMP1117 Computer programming (6 credits) in place of ENGG1111.

*Students can be waived for taking “MATH1013 University mathematics II” should they complete “MATH1851 Calculus and ordinary differential equations” and “MATH1853 Linear algebra, probability & statistics”.

Pre-requisite for “MATH1013 University mathematics II”:

- Level 2 or above in HKDSE Mathematics plus Extended Module 1; or
- Level 2 or above in HKDSE Mathematics plus Extended Module 2; or
- Completed “MATH1011 University mathematics I”

Discipline Core Courses (54 credits)

Introductory Courses (30 credits)

Course Code	Course Title	No. of credits
COMP2119	Introduction to data structures and algorithms	6
COMP2123	Programming technologies and tools	6
MATH2014	Multivariable calculus and linear algebra	6
STAT2601	Probability and statistics I	6
STAT2602	Probability and statistics II	6
Total for Introductory Discipline Core Courses		30

Advanced Courses (24 credits)

Course Code	Course Title	No. of credits
COMP3250	Design and analysis of algorithms	6
COMP3278	Introduction to database management systems	6
COMP3407	Scientific computing	6
STAT3600	Linear statistical analysis	6
Total for Advanced Discipline Core Courses		24

Capstone Experience (6 - 12 credits)

Course Code	Course Title	No. of credits
COMP4804	Computing and data analytics project	6
OR		
COMP4801	Final year project *	12
Total for Capstone Experience		6 - 12

* The project must be related to Computing and Data Analytics.

Discipline Elective Courses (12 - 18 credits)

Course Code	Course Title	No. of credits
STAT3609	The statistics of investment risk	6
STAT3612	Data mining	6
STAT3613	Marketing engineering	6
STAT3615	Practical mathematics for investment	6
STAT3618	Derivatives and risk management	6
STAT3622	Data visualization	6
STAT4601	Time series analysis	6
STAT4607	Credit risk analysis	6
STAT4608	Market risk analysis	6
STAT4609	Big data analytics	6
Total for Discipline Elective Courses		12 - 18

Impermissible Combinations:

BEng in Computer Engineering
BEng in Computer Science
Major in Computer Science
Major in Decision Analytics
Major in Risk Management
Major in Statistics
Minor in Computer Science
Minor in Risk Management
Minor in Statistics

Full set of regulations and syllabus of BEng in Engineering Science – Computing and Data Analytics programme, which comprises 240 credits, is available at the homepage of the Faculty of Engineering:
<http://engg.hku.hk/home/syllabuses.htm>

Enquiries

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