

(For students admitted in 2025-26 under the 4-year degree)

BSc in Data Analytics and Artificial Intelligence in Science

In addition to the requirements of their major programs, students are required to complete the University and School requirements for graduation. For details please refer to the respective sections on this website.

Students may use no more than 9 credits earned from courses offered in self-paced online delivery mode to satisfy the graduation requirements of a degree program. This 9-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

For students graduating with an additional major, they must take all the requirements specified for that major, within which they must complete at least 20 single-counted credits. These 20 credits cannot be used to fulfill any other requirements for graduation except for the 120-credit degree requirement.

Under the new 30-credit Common Core Program which is applicable to students admitted to the University in 2022-23 and thereafter, courses that have been counted towards School and/or Major Requirements are not allowed to be reused for fulfilment of the University Common Core Requirements. Students should look up the details of the Common Core Program including the general and School-/program-specific distributional requirements posted on the Common Core website where the link to it is available on this website.

Major Requirements

Students **MUST** take the following courses prior to enrollment into the major

Major Pre-requisite course(s)

			Credit(s) attained
MATH		Note: [(MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]	4-6
MATH	1013	Calculus I	3
MATH	1014	Calculus II	3
MATH	1020	Accelerated Calculus	4
MATH	1023	Honors Calculus I	3
MATH	1024	Honors Calculus II	3

Required Course(s)

			Credit(s) attained
DASC	2010	Calculus for Data Analytics in Science	3
DASC	2020	Applied Linear Algebra for Least Squares Optimization and Machine Learning	3
DASC	2110	Object-oriented Programming for Data Analytics in Science	3
DASC	2210	A Survey on Big Data in Science and Society	1
DASC	2220	Statistics and Probability for Data Analytics in Science	3
DASC	3120	Data Structures for Data Analytics in Science	3

DASC	3230	Statistical Modeling and Machine Learning	3
DASC	3240	Data Visualization in Science	3
DASC	3250	Numerical Methods for Data Analytics in Science	3
DASC	4010	Practical Artificial Intelligence in Science	3
DASC	4300	Capstone Project for Data Analytics in Science	3
COMP		Note: COMP 1021 <u>OR</u> COMP 1023	3
COMP	1021	Introduction to Computer Science	3
COMP	1023	Introduction to Python Programming	3

Track Study

Students should follow one of the tracks and complete all requirements as specified

Applied Biosciences Track

Required Course(s)

			Credit(s) attained
LIFS		Note: Students with level 3 or above in HKDSE 1x Biology are exempted from taking LIFS 1901	0-3
LIFS	1901	General Biology I	3
LIFS	1902	General Biology II	3
LIFS	2040	Cell Biology	3
LIFS	3140	General Genetics	4
LIFS	3580	Bioinformatics	3
LIFS	4320	Data Science for Biology and Medicine	3

Environmental Science Track

Required Course(s)

			Credit(s) attained
OCES	1001	The Earth as a Blue Planet	3
OCES	1010	Principles and Applications of Environmental Science	3
OCES	2004	Sustainable Ocean	3
OCES	3001	Coastal Environmental Monitoring	3
OCES	3160	Ecology	3
OCES	3301	Data Analysis in Ocean Science	3

Information Science Track

Required Course(s)

			Credit(s) attained
DASC	4020	Structured Query Language for Data Analytics	3
PHYS	1007	Quantum Information for Everyone	3

PHYS		Note: PHYS 1111 <u>OR</u> PHYS 1112 <u>OR</u> PHYS 1312	3
PHYS	1111	General Physics I	3
PHYS	1112	General Physics I with Calculus	3
PHYS	1312	Honors General Physics I	3
PHYS		Note: PHYS 1114 <u>OR</u> PHYS 1314	3
PHYS	1114	General Physics II	3
PHYS	1314	Honors General Physics II	3
PHYS	2022	Modern Physics	3
PHYS	4058	Information Physics	3

Molecular Science and Cheminformatics Track

Required Course(s)

			Credit(s) attained
CHEM	1011	General Chemistry A: Reactions, Thermodynamics, and Reaction Kinetics	3
CHEM	1012	General Chemistry B: Atomic Structure, Molecules, and Bonding Theories	3
CHEM	2111	Fundamentals of Organic Chemistry	3
CHEM		Note: CHEM 3030 <u>OR</u> CHEM 4420	3-4
CHEM	3030	Introduction to AI for Chemistry	4
CHEM	4420	Statistical Machine Learning Methods for Chemical Data Analysis	3
CHEM	4120	Biomolecular Chemistry	3
CHEM	4160	Cheminformatics	3