LEO Dr David P. Chan Bachelor of Science (Honours) Data Science

Programme Structure for 2026-27 Intake (4-year curriculum)

The following description specifies the programme curriculum for students who pursue the programme on a **full-time four-year basis**. Flexibility is allowed for completing the programme within a longer or shorter period in accordance with the stipulations in the Regulations Governing Undergraduate Studies.

		Number of Credits			
		1st Term	1st/2nd Term	2nd Term	Total
FIRST YEAR					
CCC8011	Critical Thinking: Analysis and Argumentation (R)		3		3
CCC8013	The Process of Science (R)		3		3
CCC8015	Generative Artificial Intelligence (R)		3		3
LCC1010	Chinese Communication I (R)		3		3
LUE1001	University English I (R)#	3			3
LUE1002	University English II (R)#		3		3
CDS1001	Introduction to Programming for Data Science (R)	3			3
CDS1002	Calculus (R)			3	3
CDS1003	Probability and Statistics 1 (R)		3		3
CDS1004	Mathematical Fundamentals for Data Science (R)	3			3
	1 ELE Elective## or Free Elective@ for Group B students		3		3
					30
SECOND YEAR					
CCC8012	The Making of Hong Kong (R)		3		3
CCC8014	China in World History (R)		3		3
LCC2010	Chinese Communication II (R)		3		3
CDS2002	Introduction to Artificial Intelligence (R)		3		3
CDS2003	Data Structures and Object-Oriented Programming (R)		3		3
CDS2005	Operating Systems for Data Science (R)	3			3
CDS3010	Information Systems Security Engineering and Management (R)			3	3
	ELE Elective(s)## and/or Free Elective(s)@ (2 courses)		6		6
	^ 1 Cluster Course		3		3
					30
THIRD YEAR					
CDS3001	Databases and Data Warehouses (R)	3			3
CDS3003	Machine Learning (R)			3	3
CDS3004	Data Mining (R)		3		3
CDS3005	Data Science Project Management (R)		3		3
	1 Major Discipline Elective		3		3
	ELE Elective(s)## and/or Free Elective(s)@ (2-3 courses)		6-9		6-9
	^ 2 Cluster Courses		6		6
					27-30

(R) denotes required course(s).

\# Under the revamped English Language Enhancement (ELE) programme, students will be grouped under two streams. Group A students are those who obtained level 3 in HKDSE English or equivalent while Group B students are those who obtained level 4 or above in HKDSE English or equivalent. Students are encouraged to take their first required ELE course, viz. LUE1001 for Group A and LUE1002 for Group B, in First Term of Year 1. However, they are given the flexibility to take the respective courses in Second Term of Year 1. For Group A students who take LUE1001 in Second Term of Year 1, they should take LUE1002 in First Term of Year 2. For details, please refer to https://www.ln.edu.hk/reg/undergraduate-programmes/english-language-enhancement-ele-curriculum.

Group A students have to take 1 ELE elective while Group B students have to take 2 ELE electives. ELE electives could be taken from the term in which LUE1002 is taken. For more details, please click https://www.ln.edu.hk/reg/undergraduate-programmes/english-language-enhancement-ele-curriculum.

@ Students are required to take 27 credits of free electives.

^ Students are required to complete 4 Cluster courses in total. For details, please see the Core Curriculum Section.

		Number of Credits			
		1st Term	1st/2nd Term	2nd Term	Total
THIRD TO FOURTH YEARS					
LUE4002	Professional Communication in English for Business (R)		3		3
FOURTH YEAR					
CDS4001	Best Practices of Data Science (R)		3		3
	2 Major Discipline Electives		6		6
	ELE Elective(s)## and/or Free Electives@ (5-6 courses)		15-18		15-18
	^ 1 Cluster Course		3		3
					27-30

Minimum credits for Honours Degree: 120

REQUIREMENTS IN DATA SCIENCE

Required Courses (Total 13 courses, 39 credits)

Students need to complete six elementary required courses before taking six intermediate required courses.

Elementary Courses

CDS1001	Introduction to Programming for Data Science
CDS1002	Calculus
CDS1003	Probability and Statistics 1
CDS1004	Mathematical Fundamentals for Data Science
CDS2002	Introduction to Artificial Intelligence
CDS2005	Operating Systems for Data Science (from 2027-28)

Intermediate Courses

CDS2003	Data Structures and Object-Oriented Programming
CDS3001	Databases and Data Warehouses
CDS3003	Machine Learning
CDS3004	Data Mining
CDS3005	Data Science Project Management
CDS3010	Information Systems Security Engineering and Management (from 2027-28)

Capstone Course

CDS4001	Best Practices of Data Science

Elective Courses (Any 3 courses, 9 credits)

Application-Oriented Courses

CDS4002	Data Management
CDS4003	Project
CDS4004	Web Technologies and Social Networks

(R) denotes required course(s).

Group A students have to take 1 ELE elective while Group B students have to take 2 ELE electives. ELE electives could be taken from the term in which LUE1002 is taken. For more details, please click https://www.ln.edu.hk/reg/undergraduate-programmes/english-language-enhancement-ele-curriculum.

@ Students are required to take 27 credits of free electives.

^ Students are required to complete 4 Cluster courses in total. For details, please see the Core Curriculum Section.

ECO4203	Applied Econometrics
MKT3006	Marketing Analytics
SCI3001	Location Intelligence

Advanced-Level Courses

CDS3002	Operations Simulation with Decision Analysis
CDS4005	Big Data Analytics
CDS4006	Deep Learning
CDS4007	Stochastic Process
CDS4008	Optimization

Free Electives

Students may select courses in any disciplines to obtain the total number of credits required for graduation, subject to timetable, course load and study scheme constraints.