The Hong Kong University of Science and Technology

School of Science

An Example on Student's Pathway (as of 25 July 2023)

<< Declaration of major

School:		**School of Science**			Student's Pathways (i.e. Study Pattern)									
Department:		**Department of Mathematics**			Pathway 1									
Program:		**BSc in Data Science and Technology**			Background: HKDSE 4 Core + 1 Elec + MATH M1/M2 Profile: Normative									
Course Offering Dept (course code prefix)	Course Code	Course Title / Courses List	Credits	Major Pre-requisite	Year 1 Fall	Year 1 Spring	Year 2 Fall	Year 2 Spring	Year 3 Fall	Year 3 Spring	Year 4 Fall	Year 4 Spring	**Sub-total**	**Remarks**
Major Pre-requisite Requirements														
MATH		Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]	4-7											
MATH	1012	Calculus IA	4											
MATH	1013	Calculus IB	3											
MATH	1014	Calculus II	3	@	3	3							6	
MATH	1020	Accelerated Calculus	4											
MATH	1023	Honors Calculus I	3											
MATH	1024	Honors Calculus II	3											
COMP		Note: COMP 1021 OR COMP 1022P	3											
COMP	1021	Introduction to Computer Science	3	@		3							3	
COMP	1022P	Introduction to Computing with Java	3											
SCIE/ENGG		Note: SCIE 1000 OR ENGG 1010	0											
SCIE	1000	Science School Induction	0	@	0	0							0	
ENGG	1010	Academic Orientation	0											
		Required credits for Major Pre-requisite Requirements	7-10										9	
Major Requirements														
Major Required Courses and Electives														
DSCT	4900	Academic and Professional Development	0				0	0	0	0	0	0	0	
MATH	2023	Multivariable Calculus	4				4						4	
MATH		Note: MATH 2121 OR MATH 2131	4											
MATH	2121	Linear Algebra	4				4						4	
MATH	2131	Honors in Linear and Abstract Algebra I	4											
MATH	2411	Applied Statistics	4					4					4	
MATH		Note: MATH 2421 OR MATH 2431	4											
MATH	2421	Probability	4						4				4	
MATH	2431	Honors Probability	4											
MATH	3322	Matrix Computation	3					3					3	
MATH	3332	Data Analytic Tools	3						3				3	
MATH	3423	Statistical Inference	3							3			3	
MATH	3424	Regression Analysis	3								3		3	
MATH/COMP		Note: MATH 4432 OR COMP 4211	3											
MATH	4432	Statistical Machine Learning	3								3		3	
COMP	4211	Machine Learning	3											
MATH/COMP		Note: MATH 4995 OR COMP 4981 OR COMP 4981H	3-6											
MATH	4995	Capstone Project for Data Science	3											
COMP	4981	Final Year Project	6								3		3	
COMP	4981H	Final Year Thesis	6											
COMP		Note: (COMP 2011 AND COMP 2012) OR COMP 2012H	5-8											
COMP	2011	Programming with C++	4				4			4			8	
COMP	2012	Object-Oriented Programming and Data Structures	4											
COMP	2012H	Honors Object-Oriented Programming and Data Structures	5											
COMP		Note: COMP 2711 OR COMP 2711H	4											
COMP	2711	Discrete Mathematical Tools for Computer Science	4					4					4	
COMP	2711H	Honors Discrete Mathematical Tools for Computer Science	4											
COMP		Note: COMP 3711 OR COMP 3711H	3-4											
COMP	3711	Design and Analysis of Algorithms	3						3				3	
COMP	3711H	Honors Design and Analysis of Algorithms	4											
LANG		Note: [(LANG 2010 OR LANG 2010H) OR (LANG 2030 OR LANG 2030H)] AND (LANG 3021 OR LANG 4030)	6											
LANG	2010	English for Science I	3											
LANG	2010H	English for Science I	3					3		3			6	
LANG	2030	Technical Communication I	3											
LANG	2030H	Technical Communication I	3											
LANG	3021	Science Communication in English (Mathematics)	3											
LANG	4030	Technical Communication II for CSE, CPEG & DSCT	3											
MATH/COMP		Data Science Electives [Students opting for MATH 4995 should take a minimum of 4 courses (12 credits) from the specified elective list, of which at least 2 courses should be taken from COMP; those opting for COMP 4981 or COMP 4981H should take a minimum of 3 courses (9 credits), of which at least 1 course should be taken from COMP. Out of the total 4 (or 3) elective courses taken, at least 1 course but no more than 2 courses should be from MATH]	9-12							3	3	6	12	
		Required credits for Major Required Courses and Electives	61-71										67	
University CORE														
CORE	C3 - C12	U CORE - Others	30		6	9	3	3	3	3	3		30	
CORE	C1 & C2	U CORE - English Language	6		3	3							6	
		Sub-total for University CORE	36										36	
					Term load (excl. free credits)									
					12	18	15	17	13	16	15	6		
					112#									

<< Declaration of major

Notes:

@ Course that students need to complete before enrolling into respective major/programs.

To graduate, students should complete at least 120 credits in approved courses. They may need to take courses additional to the required and elective courses as specified above to meet this minimum credit requirement.

>> The content of this example is not necessarily equivalent to a complete list of graduation requirements of the program. Students should refer to the Program Catalog for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.