The Hong Kong University of Science and Technology

School of Science

An Example on Student's Pathway (as of 24 July 2017)

<< Declaration of major

School:		**School of Science**			Student's Pathways (i.e. Study Pattern)										
Department:		**Department of Mathematics**			Pathway 1										
Program:		**BSc in Mathematics**			Background: HKDSE 4 Core + 1 Elec + MATH M1/M2 Profile: Normative. Students to graduate with BSc MATH following Applied Mathematics Track										
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**	
School Requirements															
SCIE	1000	Science School Induction	0		0	0							0		
COMP		Note: COMP 1001 OR COMP 1021 OR COMP 1022P OR COMP 1022Q OR COMP 2011	3-4												
COMP	1001	Exploring Multimedia and Internet Computing	3												
COMP	1021	Introduction to Computer Science	3				3						3		
COMP	1022P	Introduction to Computing with Java	3												
COMP	1022Q	Introduction to Computing with Excel VBA	3												
COMP	2011	Introduction to Object-oriented Programming	4												
LANG	2010	English for Science I	3				3						3		
MATH		Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020] (Students following IRE track can only use MATH 1023 and MATH 1024 to fulfill the requirement)	4-7												
MATH	1012	Calculus IA	4	@	3	3							6		
MATH	1013	Calculus IB	3												
MATH	1014	Calculus II	3												
MATH	1020	Accelerated Calculus	4												
MATH	1023	Honors Calculus I	3												
MATH	1024	Honors Calculus II	3												
CHEM	1004	Chemistry in Everyday Life	3		3								3		
CHEM	1010	General Chemistry IA	3										0		
CHEM	1020	General Chemistry IB	2										0		
CHEM	1030	General Chemistry II	3										0		
CHEM	1050	Laboratory for General Chemistry I	1										0		
CHEM	1055	Laboratory for General Chemistry II	1										0		
LIFS	1030	Environmental Science	3										0		
LIFS	1901	General Biology I	3			3							3		
LIFS	1902	General Biology II	3										0		
LIFS	1903	Laboratory for General Biology I	1										0		
LIFS	1904	Laboratory for General Biology II	1										0		
LIFS	1930	Nature of Life Sciences	3										0		
LIFS	2210	Biochemistry I	3										0		
MATH	2023	Multivariable Calculus	4				4						4		
MATH	2121	Linear Algebra	4				{4}						0		
MATH	2131	Honors in Linear and Abstract Algebra I	4										0		
PHYS	1001	Physics and the Modern Society	3										0		
PHYS	1111	General Physics I	3										0		
PHYS	1112	General Physics I with Calculus	3		3								3		
PHYS	1113	Laboratory for General Physics I	1		1								1		
PHYS	1114	General Physics II	3			3							3		
PHYS	1115	Laboratory for General Physics II	1										0		
PHYS	1312	Honors General Physics I	3										0		
PHYS	1314	Honors General Physics II	3										0		
Required credits for School / Major Pre-requisite Requirements													29		
Major Requirements															
Major Required Courses and Electives															
MATH	2023	Multivariable Calculus	4				(4)						0		
MATH		Note: MATH 2033 OR MATH 2043 [Students following IRE Track or Pure Mathematics (Advanced) Track can only use MATH 2043 to fulfill the requirement.]	4					4					4		
MATH	2033	Mathematical Analysis	4												
MATH	2043	Honors Mathematical Analysis	4												
MATH		Note: MATH 2121 OR MATH 2131 [Students following IRE Track or Pure Mathematics (Advanced) Track can only use MATH 2131 to fulfill the requirement.]	4				4						4		
MATH	2121	Linear Algebra	4												
MATH	2131	Honors in Linear and Abstract Algebra I	4												
MATH		Note: MATH 3033 OR MATH 3043 [Students following IRE Track or Pure Mathematics (Advanced) Track can only use MATH 3043 to fulfill the requirement.]	4						4				4		
MATH	3033	Real Analysis	4												
MATH	3043	Honors Real Analysis	4												
COMP		Note: COMP 1021 OR COMP 1022P OR COMP 1022Q	3				(3)						0		
COMP	1021	Introduction to Computer Science	3												
COMP	1022P	Introduction to Computing with Java	3												
COMP	1022Q	Introduction to Computing with Excel VBA	3												
LANG	3011	English for Mathematics	3						3				3		
Required credits for Major Required Courses and Electives			22										15		
Track Study															
Applied Mathematics Track															
MATH	2352	Differential Equations	4					4					4		
MATH	2411	Applied Statistics	4					4					4		
MATH	3312	Numerical Analysis	3						3				3		
MATH		Note: MATH 4992 OR MATH 4999	3												
MATH	4992	Capstone Project in Applied Mathematics	3								3		3		
MATH	4999	Independent Capstone Project	3												
MATH		MATH Depth Electives (4 courses from the specified elective list)	12						3	3	3	3	12		
Required credits for Applied Mathematics Track			26										26		
University CORE															
CORE	C3 - C12	U CORE - Others	30		3	3	3	3	3	9	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)										
					16	15	17	15	16	12	9	6			
					106#										

<< Declaration of major

Notes:

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

( ) indicates the reuse of the same course to fulfill more than one requirement.

{ } indicates the course overlapping with another requirement will not be necessarily counted towards the School Requirements.

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/UG Curriculum Handbook for updated graduation requirements. For up-to-date information on course offering and scheduling, students should check it out from respective School and Department.

The Hong Kong University of Science and Technology

School of Science

An Example on Student's Pathway (as of 24 July 2017)

<< *Declaration of major*

School:	**School of Science**	Student's Pathways (i.e. Study Pattern)
Department:	**Department of Mathematics**	Pathway 1
Program:	**BSc in Mathematics**	Background: HKDSE 4 Core + 1 Elec (incl. 1/2x PHYS) + MATH M1/M2 Profile: Normative. Student to graduate with BSc MATH following Mathematics and Physics Track

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**
School Requirements														
SCIE	1000	Science School Induction	0		0	0							0	
COMP		Note: COMP 1001 OR COMP 1021 OR COMP 1022P OR COMP 1022Q OR COMP 2011	3-4											
COMP	1001	Exploring Multimedia and Internet Computing	3											
COMP	1021	Introduction to Computer Science	3					3					3	
COMP	1022P	Introduction to Computing with Java	3											
COMP	1022Q	Introduction to Computing with Excel VBA	3											
COMP	2011	Introduction to Object-oriented Programming	4											
LANG	2010	English for Science I	3				3						3	
MATH		Note: [(MATH 1012 OR MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020] (Students following IRE track can only use MATH 1023 and MATH 1024 to fulfill the requirement)	4-7											
MATH	1012	Calculus IA	4											
MATH	1013	Calculus IB	3	@	3	3							6	
MATH	1014	Calculus II	3											
MATH	1020	Accelerated Calculus	4											
MATH	1023	Honors Calculus I	3											
MATH	1024	Honors Calculus II	3											
CHEM	1004	Chemistry in Everyday Life	3		3								3	
CHEM	1010	General Chemistry IA	3										0	
CHEM	1020	General Chemistry IB	2										0	
CHEM	1030	General Chemistry II	3										0	
CHEM	1050	Laboratory for General Chemistry I	1										0	
CHEM	1055	Laboratory for General Chemistry II	1										0	
LIFS	1030	Environmental Science	3										0	
LIFS	1901	General Biology I	3			3							3	
LIFS	1902	General Biology II	3										0	
LIFS	1903	Laboratory for General Biology I	1										0	
LIFS	1904	Laboratory for General Biology II	1										0	
LIFS	1930	Nature of Life Sciences	3										0	
LIFS	2210	Biochemistry I	3										0	
MATH	2023	Multivariable Calculus	4				4						4	
MATH	2121	Linear Algebra	4				{4}						0	
MATH	2131	Honors in Linear and Abstract Algebra I	4										0	
PHYS	1001	Physics and the Modern Society	3										0	
PHYS	1111	General Physics I	3		3								3	
PHYS	1112	General Physics I with Calculus	3										0	
PHYS	1113	Laboratory for General Physics I	1		1								1	
PHYS	1114	General Physics II	3			3							3	
PHYS	1115	Laboratory for General Physics II	1			{1}							0	
PHYS	1312	Honors General Physics I	3										0	
PHYS	1314	Honors General Physics II	3										0	
Required credits for School / Major Pre-requisite Requirements													29	
Major Requirements														
Major Required Courses and Electives														
MATH	2023	Multivariable Calculus	4				(4)						0	
MATH		Note: MATH 2033 OR MATH 2043 [Students following IRE Track or Pure Mathematics (Advanced) Track can only use MATH 2043 to fulfill the requirement.]	4					4					4	
MATH	2033	Mathematical Analysis	4											
MATH	2043	Honors Mathematical Analysis	4											
MATH		Note: MATH 2121 OR MATH 2131 [Students following IRE Track or Pure Mathematics (Advanced) Track can only use MATH 2131 to fulfill the requirement.]	4				4						4	
MATH	2121	Linear Algebra	4											
MATH	2131	Honors in Linear and Abstract Algebra I	4											
MATH		Note: MATH 3033 OR MATH 3043 [Students following IRE Track or Pure Mathematics (Advanced) Track can only use MATH 3043 to fulfill the requirement.]	4						4				4	
MATH	3033	Real Analysis	4											
MATH	3043	Honors Real Analysis	4											
COMP		Note: COMP 1021 OR COMP 1022P OR COMP 1022Q	3											
COMP	1021	Introduction to Computer Science	3					(3)					0	
COMP	1022P	Introduction to Computing with Java	3											
COMP	1022Q	Introduction to Computing with Excel VBA	3											
LANG	3011	English for Mathematics	3							3			3	
Required credits for Major Required Courses and Electives			22										15	
Track Study														
Mathematics and Physics Track														
MATH	2352	Differential Equations	4					4					4	
MATH	3312	Numerical Analysis	3								3		3	
MATH	4023	Complex Analysis	3							3			3	
MATH	4052	Partial Differential Equations	3								3		3	
MATH		Note: MATH 4991 OR MATH 4992 OR MATH 4999	3											
MATH	4991	Capstone Project in Pure Mathematics	3								3		3	
MATH	4992	Capstone Project in Applied Mathematics	3											
MATH	4999	Independent Capstone Project	3											
PHYS		Note: PHYS 1111 OR PHYS 1112 OR PHYS 1312	3											
PHYS	1111	General Physics I	3		(3)								0	
PHYS	1112	General Physics I with Calculus	3											
PHYS	1312	Honors General Physics I	3											
PHYS	1113	Laboratory for General Physics I	1		(1)								0	
PHYS		Note: PHYS 1114 OR PHYS 1314	3											
PHYS	1114	General Physics II	3			(3)							0	
PHYS	1314	Honors General Physics II	3											
PHYS	1115	Laboratory for General Physics II	1			1							1	
PHYS	2022	Modern Physics	3				3						3	
PHYS	2023	Modern Physics Laboratory	1				1						1	
PHYS	3032	Classical Mechanics	3						3				3	
PHYS		Note: PHYS 3033 OR PHYS 3053	3-4											
PHYS	3033	Electricity and Magnetism I	3						3				3	
PHYS	3053	Honors Electricity and Magnetism I	4											
PHYS		Note: PHYS 3034 OR PHYS 4051 OR PHYS 4052	3											
PHYS	3034	Electricity and Magnetism II	3								3		3	
PHYS	4051	Quantum Mechanics II	3											
PHYS	4052	Introductory Solid State Physics	3											
PHYS		Note: PHYS 3036 OR PHYS 3037	3-4											
PHYS	3036	Quantum Mechanics I	3							3			3	
PHYS	3037	Honors Quantum Mechanics I	4											
PHYS	4050	Thermodynamics and Statistical Physics	3							3			3	
MATH/PHYS		MATH/PHYS 3000-level or above Elective (Any 1 course of the subject and level as specified)	3									3	3	
Required credits for Mathematics and Physics Track			46-48										39	
University CORE														
CORE	C3 - C12	U CORE - Others	30		3	3		6	6	3	3	6	30	
CORE	C1 & C2	U CORE - English Language	6		3	3							6	
Sub-total for University CORE			36										36	
					Term load (excl. free credits)									
					16	16	15	17	16	15	15	9		
					119#									

<< *Declaration of major*

Notes:

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