

The Hong Kong University of Science and Technology

School of Science

An Example on Student's Pathway (as of 2 August 2021)

<< Declaration of major

School:		School of Science			Student's Pathways (i.e. Study Pattern)								Remarks		
Department:		Department of Physics			Pathway 1										
Program:		BSc in Physics			Background: HKDSE 4 Core + 2 Elec (incl. 1/2x PHYS) Profile: Normative. Students to graduate with PHYS major without option.										
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
School Requirements															
SCIE	1000	Science School Induction			0		0	0							0
COMP	1021	Note: COMP 1021 OR COMP 1022P OR COMP 2011			3-4										
COMP	1022P	Introduction to Computer Science			3				3						3
COMP	2011	Introduction to Computing with Java Programming with C++			4										
LANG	2010	English for Science I			3					3					3
PHYS	1111	Note: PHYS 1111 OR PHYS 1112 OR PHYS 1312			3										
PHYS	1112	General Physics I			3	@	3								3
PHYS	1312	General Physics I with Calculus Honors General Physics I			3										
PHYS	1114	Note: PHYS 1114 OR PHYS 1314			3										
PHYS	1314	General Physics II Honors General Physics II			3	@	3								3
CHEM	1004	Chemistry in Everyday Life			3		3								3
CHEM	1010	General Chemistry IA			3										0
CHEM	1020	General Chemistry IB			3										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	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	1012	Calculus IA			4										0
MATH	1013	Calculus IB			3		3								3
MATH	1014	Calculus II			3			3							3
MATH	1020	Accelerated Calculus			4										0
MATH	1023	Honors Calculus I			3										0
MATH	1024	Honors Calculus II			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
OCES	1030	Environmental Science			3										0
PHYS	1001	Physics and the Modern Society			3										0
PHYS	1113	Laboratory for General Physics I			1		1								1
PHYS	1115	Laboratory for General Physics II			1			(1)							0
Required credits for School / Major Pre-requisite Requirements															29
Major Requirements															
Major Required Courses and Electives															
PHYS	1113	Laboratory for General Physics I			1		(1)								0
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	2080	Physics Seminar and Tutorial I			1					1					1
PHYS/MATH		Note: PHYS 2124 OR MATH 2352 (Students taking the Physics and Mathematics Option may take either MATH 2352 or PHYS 2124. Other students can only take PHYS 2124 to fulfill the requirement.)			3-4					3					3
PHYS	2124	Mathematical Methods in Physics I			3										
MATH	2352	Differential Equations			4										
PHYS	3032	Classical Mechanics			3					3					3
PHYS		Note: PHYS 3033 OR PHYS 3053 (Students taking IRE Track or Honors Physics Option can only use PHYS 3053 to fulfill the requirement.)			3-4										
PHYS	3033	Electricity and Magnetism I			3						3				3
PHYS	3053	Honors Electricity and Magnetism I			4										
PHYS		Note: PHYS 3036 OR PHYS 3037 (Students taking IRE Track or Honors Physics Option can only use PHYS 3037 to fulfill the requirement.)			3-4										
PHYS	3036	Quantum Mechanics I			3						3				3
PHYS	3037	Honors Quantum Mechanics I			4										
PHYS/MATH		Note: PHYS 3142 OR MATH 3312 (Students taking the Physics and Mathematics Option may take either MATH 3312 or PHYS 3142. Other students can only take PHYS 3142 to fulfill the requirement.)			3										
PHYS	3142	Computational Methods in Physics			3						3				3
MATH	3312	Numerical Analysis			3										
PHYS	3152	Methods of Experimental Physics I			3						3				3
PHYS	3153	Methods of Experimental Physics II			3							3			3
PHYS	4050	Thermodynamics and Statistical Physics			3								3		3
PHYS	4080	Physics Seminar and Tutorial II			1								1		1
PHYS/SCIE		Note: PHYS 4191 OR PHYS 4291 OR (SCIE 3500 AND SCIE 4500) (Students taking IRE Track can only use (SCIE 3500 AND SCIE 4500) to fulfill the requirement; those taking Honors Physics Option can only use PHYS 4291 to fulfill the requirement.)			4-6										
PHYS	4191	Capstone Project			4								4		4
PHYS	4291	Capstone Research			6										
SCIE	3500	IRE Research Project I			3										
SCIE	4500	IRE Research Project II			3										
PHYS		Note: PHYS 4811 OR PHYS 4812 OR PHYS 4813 (2 courses out of 3)			2										
PHYS	4811	Contemporary Applications of Physics: Machine Learning in Physics			1								2		2
PHYS	4812	Contemporary Applications of Physics: Quantum Information Technology			1										
PHYS	4813	Contemporary Applications of Physics: Atmospheric Physics - Making Sense of Weather and Climate			1										
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										
MATH	1020	Accelerated Calculus			4										
MATH	1023	Honors Calculus I			3										
MATH	1024	Honors Calculus II			3										
MATH	2023	Multivariable Calculus			4					(4)					0
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										
LANG		Note: LANG 3023 OR LANG 3026 (Students following IRE Track should take LANG 3026 to fulfill the requirement.)			3										
LANG	3023	Science Communication in English (Physics)			3							3			3
LANG	3026	Science Communication in English for Research Students (Mathematics and Physics)			3										
Required credits for Major Required Courses and Electives					53-61										44
University CORE															
CORE	C3 - C12	U CORE - Others			30		3	3		6	3	3	3	9	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	16	15	9	15	13	9						
109#															

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.