

The Hong Kong University of Science and Technology

School of Science

An Example on Student's Pathway (as of 26 July 2024)

<< Declaration of major

School:		School of Science			Student's Pathways (i.e. Study Pattern)										Remarks					
Department:		Division of Life Science			Pathway 1															
Program:		BSc in Biotechnology			Background: HKDSE 4 Core + 2 Elec (incl. 1/2x BIOL, 1/2x CHEM)															
					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							
<b>School Requirements</b>																				
COMP	1021	Note: COMP 1021 OR COMP 1022P OR COMP 2011	3-4																	
COMP	1022P	Introduction to Computer Science	3											3						
COMP	2011	Introduction to Computing with Java Programming with C++	4				3													
LIFS	1901	Note: Students with level 3 or above in HKDSE 1x Biology are exempted from taking LIFS 1901	0-3	@	3									3						
LIFS	1902	General Biology I	3	@										3						
CHEM	1008	General Biology II	3			3								3						
CHEM	1011	Introductory Chemistry	3											0						
CHEM	1011	General Chemistry A: Reactions, Thermodynamics, and Reaction Kinetics	3		3									3						
CHEM	1012	General Chemistry B: Atomic Structure, Molecules, and Bonding Theories	3											3						
CHEM	1051	Laboratory for General Chemistry A	1		(1)									0						
CHEM	1052	Laboratory for General Chemistry B	1			(1)								0						
DASC	2010	Calculus for Data Analytics in Science	3											0						
LIFS	1030**	Environmental Science	3											0						
LIFS	1903	Laboratory for General Biology I	1		1									1						
LIFS	1904	Laboratory for General Biology II	1			(1)								0						
LIFS	1930	Nature of Life Sciences	3											0						
LIFS	2210	Biochemistry I	3				3							3						
MATH	1012	Calculus IA	4											0						
MATH	1013	Calculus IB	3		3									3						
MATH	1014	Calculus II	3											0						
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											0						
MATH	2121	Linear Algebra	4											0						
MATH	2131	Honors in Linear and Abstract Algebra I	4											0						
OCES	1001	The Earth as a Blue Planet	3											0						
OCES	1010	Principles and Applications of Environmental Science	3											0						
PHYS	1101	Introductory Physics	4			4								4						
PHYS	1111	General Physics I	3											0						
PHYS	1112	General Physics I with Calculus	3											0						
PHYS	1113	Laboratory for General Physics I	1											0						
PHYS	1114	General Physics II	3											0						
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						
<b>Required credits for School / Major Pre-requisite Requirements</b>													26							
<b>Major Requirements</b>																				
<b>Major Required Courses and Electives</b>																				
LIFS		Note: Students with level 3 or above in HKDSE 1x Biology are exempted from taking LIFS 1903	0-1		(1)									0						
LIFS	1903	Laboratory for General Biology I	1											1						
LIFS	1904	Laboratory for General Biology II	1		1									1						
LIFS	2040	Cell Biology	3				3							3						
LIFS	2070	Introduction to Biotechnology	3				3							3						
LIFS	2080	Plant Biology	3					3						3						
LIFS	2210	Biochemistry I	3			(3)								0						
LIFS	2220	Biochemistry II	3					3						3						
LIFS	3150	Biostatistics	3						3					3						
LIFS/SCIE		Note: LIFS 4963 OR (LIFS 4973 AND LIFS 4983) OR (SCIE 4500 AND LIFS 4983) (Students following IRE Track can only use (SCIE 4500 AND LIFS 4983) to fulfill the requirement.)	3-7																	
LIFS	4963	Biotechnology Capstone Project	3							[3]	3			3						
LIFS	4973	Biotechnology Project Research I	3																	
LIFS	4983	Biotechnology Project Research II	4																	
SCIE	4500	IRE Research Project II	3																	
CHEM	1011	General Chemistry A: Reactions, Thermodynamics, and Reaction Kinetics	3		(3)									0						
CHEM	1012	General Chemistry B: Atomic Structure, Molecules, and Bonding Theories	3			(3)								0						
CHEM	1051	Laboratory for General Chemistry A	1		1									1						
CHEM	1052	Laboratory for General Chemistry B	1			1								1						
CHEM	2111	Note: CHEM 2111 OR CHEM 2311	3							3				3						
CHEM	2311	Fundamentals of Organic Chemistry	3																	
CHEM	2311	Analytical Chemistry	3																	
CHEM	2155	Note: CHEM 2155 OR CHEM 2355	1								1			1						
CHEM	2355	Fundamental Organic Chemistry Laboratory	1																	
CHEM	2355	Fundamental Analytical Chemistry Laboratory	1																	
LIFS/BTEC/OCES/PHYS/BIEN/CENG		Biotechnology Electives (Courses from the specified elective list; Students following IRE Track are required to take a minimum of 15 credits; while others a minimum of 18 credits. Courses taken as Major/Track Required Courses may not be counted towards the elective requirement.)	15-18					3		6	3	6		18						
<b>Required credits for Major Required Courses and Electives</b>													43							
<b>Track Study</b>																				
<b>Applied Bioscience Track</b>																				
LIFS	3040	Animal Physiology	3											3						
LIFS	3060	Microbiology	3					3						3						
LIFS	4370	Human Genetics and Personalized Medicine	3								3			3						
LIFS		Applied Bioscience Elective (3 courses from the specified list)	9						3		3	3		9						
<b>Required credits for Applied Bioscience Track</b>													18							
<b>University CORE</b>																				
CORE	C3 - C10	U CORE - Others	24		1	2	3	3	6	3	3	3		24						
CORE	C1 & C2	U CORE - English Language	6																	
					3	3								6						
<b>Sub-total for University CORE</b>													30							
													Term load (excl. free credits)							
													15	17	15	18	9	16	12	15
													117#							

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.

[] denotes the course is also offered in other terms as indicated and students may take the course in one of these terms subject to advice by the program office.

# 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.

\*\*Remarks on course(s):

- LIFS 1030: The course was last offered in 2020-21 and was deleted subsequently.

>> 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.

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DASC	2010	Calculus for Data Analytics in Science	3												
LIFS	1030**	Environmental Science	3												
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OCEC	1001	The Earth as a Blue Planet	3												
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PHYS	1101	Introductory Physics	4			4									
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LIFS	2040	Cell Biology	3				3							3	
LIFS	2070	Introduction to Biotechnology	3				3							3	
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LIFS/SCIE	4963	Note: LIFS 4963 OR (LIFS 4973 AND LIFS 4983) OR (SCIE 4500 AND LIFS 4983) (Students following IRE Track can only use (SCIE 4500 AND LIFS 4983) to fulfill the requirement.)	3-7												
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LIFS	4983	Biotechnology Project Research I	3												
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CHEM	1012	General Chemistry B: Atomic Structure, Molecules, and Bonding Theories	3			(3)								0	
CHEM	1051	Laboratory for General Chemistry A	1		1									1	
CHEM	1052	Laboratory for General Chemistry B	1			1								1	
CHEM	2111	Note: CHEM 2111 OR CHEM 2311	3									3		3	
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<b>Required credits for Major Required Courses and Electives</b>			49-57											43	
<b>Track Study</b>															
<b>Entrepreneurship Track</b>															
LIFS	3110	Biotechnological Application of Recombinant DNA Techniques	3									3		3	
LIFS	3140	General Genetics	4									4		4	
LIFS	4200	Concepts and Issues in Contemporary Biotechnology	3										3	3	
LIFS	4630	Advanced Topics in Biotechnology	3										3	3	
BIBU	4820	Biotechnology Entrepreneurship and Business Operations	3										3	3	
CENG	1600	Biotechnology and Its Business Opportunities	3					3						3	
<b>Required credits for Entrepreneurship Track</b>			19											19	
<b>University CORE</b>															
CORE	C3 - C10	U CORE - Others	24		1	2	3	3	3	6	3	3		24	
CORE	C1 & C2	U CORE - English Language	6		3	3								6	
<b>Sub-total for University CORE</b>			30											30	
Term load (excl. free credits)															
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