

Curriculum for BSc in Chemistry and Science Education

Major Program Requirements

Core courses

CHEM 111	Organic Chemistry I	[3-1-0:4]
CHEM 121	Physical Chemistry I	[3-1-0:4]
CHEM 131	Inorganic Chemistry I	[3-1-0:4]
CHEM 141	Analytical Chemistry	[3-0-0:3]
CHEM 153	Molecular Characterization Laboratory I	[0-2-5:4]
CHEM 155	Synthetic Laboratory I	[0-2-5:4]

Required courses

	CHEM 212	Organic Chemistry II	[3-0-0:3]
	CHEM 222	Physical Chemistry II	[3-0-0:3]
	CHEM 232	Inorganic Chemistry II	[3-0-0:3]
	CHEM 244	Analytical Chemistry II	[3-0-0:3]
(1)	COMP 101	Exploring Multimedia and Internet Computing	[2-0-2:3]
(2)	MATH 021	Concise Calculus	[3-1-0:4]
	MATH 106	Multivariable Calculus and Basic Probability	[3-1-0:3]
	MATH 150	Introduction to Ordinary Differential Equations	[2-1-0:2]
	SCED 213	Foundations and Processes of Learning	[3-0-0:3]
	SCED 214	Managing Diversity in the Classroom	[3-0-0:3]
	SCED 311	Philosophical and Sociological Perspectives in Education	[3-0-0:3]
	SCED 314	Curriculum and Assessment	[3-0-0:3]
	SCED 315	The Professional Teacher in Classroom, School and Community	[3-0-0:3]
	SCED 321	Foundations of Science Education	[3-0-0:3]
	SCED 322	Teaching and Learning Integrated and Applied Science	[3-0-0:3]
	SCED 323	Learning Science in the Community	[3-0-0:3]
	SCED 324	Science, Design and Technology, and Society	[3-0-0:3]
	SCED 325	Field Experience for Science Teaching (I)	[2 credits]
	SCED 326	Field Experience for Science Teaching (II)	[6 credits]
	SCED 341	Foundation Studies in the Teaching and Learning of Chemistry	[3-0-0:3]
	SCED 342	Advanced Studies in the Teaching and Learning of Chemistry	[3-0-0:3]

Elective courses

	Elective types	Minimum no. of courses	Minimum total credits
(3)	CHEM Chemistry Elective	1	3
(4)	SCIE Science Elective	7	21
	FREE Free Elective	2	6

General Education Requirements

Electives must be selected from amongst those general education courses that are listed under the section "Designated General Education Courses".

	Elective types	Minimum no. of courses	Minimum total credits
	GEE(ENGG) Engineering General Education Elective	1	6
	GEE(SB&M) Business and Management General Education Elective	1	
(5)	GEE(H&SS) Humanities and Social Science General Education Elective	4	12

Required Courses in English Communication

LANG 108	English for Science Students	[0-2-0:2]
LANG 208	English Communication for Science Students I	[0-2-0:1]
LANG 209	English Communication for Science Students II	[0-2-0:1]
LANG 308	Technical Communication for Science Students III	[0-2-0:1]

Other Requirement:

(6)	HLTH 001	Healthy Life Style	[0 credit]
-----	----------	--------------------	------------

Notes:

- (1) This course may be replaced by another COMP course upon approval by the Department.
- (2) Students entering with grade D or above in AL Pure Mathematics take a FREE/SCIE/GEE elective in Fall of the first year and replace that particular elective with a MATH elective later.
- (3) Students have to elect one Chemistry course at 200-level or above or other relevant courses that are approved by the Department.
- (4) Science elective courses have to be chosen from the following two groups of courses, with a minimum of three courses from each group.
Group A: PHYS 002/007, PHYS 111, PHYS 112, PHYS 126
Group B: BIOL 104, BIOL 108, BIOL 202, BIOL 216
Students without AL Biology background must take BISC 001 as free elective before taking other Biology elective courses.
- (5) Of these courses, at least one course in Humanities and one in Social Science are required.

- (6) Students are required to take and pass this course in their first year of study. Details of the course and its requirements are announced on the course website <http://www.ab.ust.hk/sao/HLTH001> managed by the Student Affairs Office.

A minimum of 141 credits is required for the BSc program in Chemistry and Science Education.

Recommended Pattern of Study for BSc in Chemistry and Science Education

1st year	Fall	C CHEM 111, CHEM 131 R COMP 101, LANG 108, MATH 021 O HLTH 001	(Total: 15 credits)
	Spring	C CHEM 155 R CHEM 212, CHEM 232, LANG 108, MATH 106 E GEE(H&SS) O HLTH 001	(Total: 18* credits)
2nd year	Fall	C CHEM 121, CHEM 141 R LANG 208, MATH 150 E GEE(H&SS), SCIE(A), FREE	(Total: 19 credits)
	Spring	C CHEM 153 R CHEM 222, CHEM 244, LANG 209, SCED 213, SCED 214	(Total: 17 credits)
3rd year	Fall	R SCED 311, SCED 321, SCED 323, SCED 324, SCED 325, SCED 341	(Total: 17 credits)
	Spring	E CHEM, two SCIE(A), SCIE(B), GEE(ENGG), GEE(H&SS)	(Total: 18 credits)
4th year	Fall	R LANG 308 E SCIE(A)/(B), two SCIE(B), GEE(SB&M), GEE(H&SS), FREE	(Total: 19 credits)
	Winter	R SCED 314, SCED 315, SCED 322, SCED 342	(Total 12# credits)
	Spring	R SCED 314, SCED 315, SCED 322, SCED 326, SCED 342	(Total: 18# credits)

* LANG 108 is a two-semester course. The course credits will be earned on completion of the course at the end of 1st year Spring.

Work in SCED 314, SCED 315, SCED 322 and SCED 342 commence in 4th year Winter. The course credits will be earned on completion of the course at the end of 4th year Spring.

C = core course; R = required course; E = elective course