

# Curriculum for Undergraduate Programs

## Curriculum for BSc in Biochemistry

### Major Program Requirements

#### Core courses

BICH	121	Introduction to Biochemistry	[3-0-0:3]
BICH	122	Intermediary Metabolism	[3-0-0:3]
BICH	172	Introductory Biochemical Laboratory	[0-0-6:2]
BICH	182	Biochemical Laboratory Techniques	[1-0-0:1]
BICH	201	Molecular and Cellular Biochemistry I	[3-0-0:3]
BICH	202	Molecular and Cellular Biochemistry II	[3-0-0:3]
BICH	211	Biochemistry of Nucleic Acids	[0-0-6:2]
BICH	221	Principles of Recombinant DNA Technology	[1-0-0:1]

#### Required courses

	BICH	366	Biotechnology Seminar	[1-3-0:4]
	BICH	397	Biochemical Research I	[0-0-9:3]
or				
	BICH	398	Biochemical Research II	[1-0-9:4]
	BIOL	202	Animal Physiology	[3-0-0:3]
or	BIOL	206	Microbiology	[3-0-0:3]
	BIOL	211	General Genetics	[3-1-0:4]
	BISC	207	Biophysics and Physical Biochemistry	[3-0-0:3]
or	BISC	215	Biostatistics	[2-1-0:3]
	CHEM	111	Organic Chemistry I	[3-1-0:4]
	CHEM	141	Analytical Chemistry I	[3-0-0:3]
	CHEM	154	Organic Chemistry Laboratory	[0-1-3:2]
	CHEM	212	Organic Chemistry II	[3-0-0:3]
	COMP	101	Exploring Multimedia and Internet Computing	[2-0-2:3]
(1)	MATH	006	Calculus and Linear Algebra	[3-1-0:3]
	or MATH	021	Concise Calculus	[3-1-0:4]

#### Elective courses

	Elective types		Minimum no. of courses	Minimum total credits
(2)	BISC	Biological Science Elective	5	15
(3)	FREE	Free Elective	3 or 4	9 or 12

### General Education Requirements

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

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	
(4) 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	English Communication for Science Students III	[0-2-0:1]

### Other Requirement:

(5) HLTH 001	Healthy Life Style	[0 credit]
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#### Notes:

- (1) a) Students admitted with a grade D or above in either AL Pure Mathematics or AL Applied Mathematics will replace this course with an approved course in the School of Science or a free elective. Other students should elect one of MATH 021 or MATH 006 with respect to their prior mathematics background as follows:

<i>Prior mathematics background</i>	<i>Course to be elected</i>
Grade E in AL Pure Mathematics or AL Applied Mathematics; and/or a passing grade in HKCEE Additional Mathematics, AS Mathematics and Statistics, and/or AS Applied Mathematics	MATH 021
Grade C or below in HKCEE Additional Mathematics; and/or a passing grade in HKCEE Mathematics; and without a passing grade in AL Pure Mathematics, AL/AS Applied Mathematics, or AS Mathematics and Statistics, Any MATH course below MATH 006	MATH 006

- (2) Students have to elect at least five courses from the following BISC courses: BICH 323 and 333, BISC 319/338/354/355/358/362/363/376/395 from Biochemistry and BISC 300/306/309/314/315/317/336 from Biology.
- (3) a) BIOL 222 and BIOL 226 are recommended electives.  
 b) 000- or 100- level biochemistry and biological science courses (BICH/BISC) taken in second or upper year cannot be used to fulfill the FREE elective requirement.  
 c) Students who take BICH 397 and 398 have to take a minimum of 3 FREE Elective courses (minimum total credits: 9); Students who take BICH 366 have to take minimum of 4 FREE Elective courses (minimum total credits: 12).
- (4) Of these courses, at least one course in Humanities and one in Social Science are required.
- (5) 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 101 credits is required for the BSc program in Biochemistry.

**Recommended Pattern of Study for BSc in Biochemistry**

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1st year	Fall	C BICH 121 R CHEM 111, COMP 101, HLTH 001, LANG 108, MATH 021 <sup>#</sup> /MATH 006	(Total: 14/15 <sup>#</sup> credits)
	Spring	C BICH 122, BICH 172, BICH 182 R CHEM 212, HLTH 001, LANG 108 E GEE(ENGG), GEE(H&SS), FREE	(Total: 20* credits)
2nd year	Fall	C BICH 201, BICH 211, BICH 221 R BIOL 211, CHEM 141, CHEM 154, LANG 208	(Total: 16 credits)
	Spring	C BICH 202 R BIOL 202/206, BISC 207/BISC 215, LANG 209 E GEE(SB&M), GEE(H&SS), FREE	(Total: 19 credits)
3rd year	Fall	R LANG 308 R/E BICH 397/FREE <sup>^</sup> E three BISC, GEE(H&SS)	(Total: 16 credits)
	Spring	R BICH 366/398 E two BISC, GEE(H&SS), FREE	(Total: 16 credits)

<sup>#</sup> Students who are required to take MATH 021, the total credits for these students would become 15 credits.

<sup>\*</sup> 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.

<sup>^</sup> Students who take BICH 366 instead of BICH 397 and 398 are required to take an additional Free Elective course.

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