

**Biology**  
**Applicable to students admitted in 2022-23**

**Major Programme Requirement**

Students are required to complete a minimum of 64[a] units of courses as follows:

	Units
1. Faculty Package: Group A: LSCI1002 Group B: CHEM1280 (preferred) or 1070 A course from the following Group C: MATH1520 (preferred) or 1010 or 1018 Group D: (PHYS1001 or 1002) (preferred) or 1111 Group E: STAT1012 (preferred) or 1011	9
2. Required Courses: BCHE2030, BIOL2120, 2210, 2410, 2420, 3012, 3022, 3560, 3570, 3610, 3620, 4010, LSCI1012, 2002#	32
3. Elective Courses: <ul style="list-style-type: none"> <li>(a) One laboratory course from BIOL2213 or BIOL2313 and another laboratory course from BIOL4012, 4032, MBTE4033#</li> <li>(b) BCHE3050#, 3080#, 4040#, 4060#, 4090#, 4130#, BIOL3310, 3410, 3413, 3420, 3510, 3530, 3630 (or FNESC4101# and 4102#), 3710, 4120, 4230, 4240, 4242, 4260, 4310, 4420, 4510, 4520, 4610, CMBI4101#, 4102#, 4201#, 4202#, 4203#, FNESC3010#, 3180#, LSCI2003#, 3012#, 3030#, 3333#, 3520# (or ENESC3520#), MBTE3510#, 3511#, 3518#, 3521#, 3528#, 3531#, 3550#, 3558#, 3560#, 3568#, 4320#, 4510#, 4530#, STAT3210# and any course not taken in 3(a).</li> <li>(c) Capstone course (at least 3 units, with a maximum of 7 units):                BIOL4901, 4902, 4903, 4906, 4907, LSCI4000#, 4911#, 4912#, 4913#</li> </ul>	23
<b>Total:</b>	<b>64[a]</b>

In addition to fulfilling the above Major Programme Requirement, students meeting the criteria as specified by the Faculty can take the following stream offered by the Faculty:

**Science, Technology And Research Stream**

Students are required to complete a minimum of 12 units of courses as follows:

	Units
1. Required Courses: <ul style="list-style-type: none"> <li>(a) One Faculty Package Course:                Choose from the two remaining groups of the Faculty Package that have not been used to fulfill the Faculty Package Requirement</li> <li>(b) Research Courses:                STAR2000, 3000, 4000[b]</li> <li>(c) Seminar Courses:                STAR2050, 3050, 4050</li> </ul>	3 6 3
2. Experiential Learning:	---

At least 4 consecutive weeks of outside Hong Kong exposure[c]

**Total: 12**

Explanatory Notes:

1. BIOL courses at 2000 and above level as well as those labeled as # will be included in the calculation of Major GPA for honours classification.
- [a] Study Option: Berkeley Biosciences Study Abroad Programme  
Students who undergo one term of studies at the University of California, Berkeley, USA will take courses offered by the Berkeley Biosciences Study Abroad Programme. Units obtained from the Programme will be recognized as up to 12 units of Major Programme requirement. This option will be recorded on transcript.
- [b] Students may select research-oriented course(s), as approved by the Major Programme, to substitute up to 4 units for fulfillment of Research Courses requirement.
- [c] Students must complete any exchange/research/internship programme(s) offered by the University, Colleges, the Faculty of Science or Major Programme, as approved by the Major Programme, to fulfill the Experiential Learning requirement. Students are responsible for the extra costs incurred in the exchange/research/internship programme(s).

Biology		
	Recommended Course Pattern	Units
<b>First Year of Attendance</b>	1 <sup>st</sup> term Faculty Package: Any one course from MATH1520, PHYS1001 or 1002, STAT1012 Major Required: Major Elective(s):	3
	2 <sup>nd</sup> term Faculty Package: LSCI1002, CHEM1280 Major Required: LSCI1012 Major Elective(s):	6 3
<b>Second Year of Attendance</b>	1 <sup>st</sup> term Major Required: BCHE2030, BIOL2120, LSCI2002 Major Elective(s):	8
	2 <sup>nd</sup> term Major Required: BIOL2210, 2410, 2420, 2213*, 2313* Major Elective(s):	6-7
<b>Third Year of Attendance</b>	1 <sup>st</sup> term Major Required: BIOL3012, 3560, 3610, 4010 Major Elective(s):	9
	2 <sup>nd</sup> term Major Required: BIOL3022, 3570, 3620 Major Elective(s): Any two electives	6 6
	Summer session Major Capstone: BIOL4901, LSCI4911	0-2
<b>Fourth Year of Attendance</b>	1 <sup>st</sup> term Major Capstone: BIOL4902, 4906, 4907, LSCI4000, 4912 Major Elective(s): Any two electives	0-4 6
	2 <sup>nd</sup> term Major Capstone: BIOL4903, LSCI4000 (if not taken), 4913 Major Elective(s): Any two electives	0-3 6

<b>Total (including Faculty Package):</b>	<b>64</b>
---	-----------

\* Choose one from the two laboratory courses

Biology — Science, Technology And Research Stream (STARS)		
	Recommended Course Pattern	Units
<b>First Year of Attendance</b>	1 <sup>st</sup> term Faculty Package: two courses Major Required: Major Elective(s):	6
	2 <sup>nd</sup> term Faculty Package: two courses Major Required: LSCI1012 Major Elective(s): STARS: STAR2050	6 3 0-1
	Summer session STARS : STAR2050 (if not taken)	0-1
	<b>Second Year of Attendance</b>	1 <sup>st</sup> term Major Required: BCHE2030, BIOL2120, LSCI2002 Major Elective(s): STARS : STAR2000 or 3050
	2 <sup>nd</sup> term Major Required: BIOL2210, 2410, 2420, 2213*, 2313* Major Elective(s): STARS : STAR2000 (if not taken) or 3050 (if not taken)	6-7 1
<b>Third Year of Attendance</b>	1 <sup>st</sup> term Major Required: BIOL3012, 3560, 3610, 4010 Major Elective(s): STARS : STAR3000 or 4050	9 1-2
	2 <sup>nd</sup> term Major Required: BIOL3022, 3570, 3620 Major Elective(s): Any one elective STARS : STAR3000 (if not taken) or 4050 (if not taken)	6 3 1-2
	Summer session Major Elective Capstone : BIOL4901	2
	<b>Fourth Year of Attendance</b>	1 <sup>st</sup> term Major Capstone: BIOL4902@, 4906, 4907, LSCI4000 Major Elective(s): Any two electives
	2 <sup>nd</sup> term Major Capstone: BIOL4903@, LSCI4000 (if not taken) Major Elective(s): Any two electives	2-3 6
<b>Total (including Faculty Package):</b>		<b>73</b>

\* Choose one from the two laboratory courses

@ Students may take BIOL4902 and 4903 as a substitute for STAR4000.

## Biology and Chemistry Double Major Programme

### Major Programme Requirement

Students are required to complete a minimum of 89 units of courses as follows:

	Units
1. Faculty Package: Group A: LSCI1002 Group B: CHEM1070 Group D: PHYS1002 (preferred) or 1001 or 1111	9
2. Required Courses:	
(a) <u>1<sup>st</sup> Major: Biology</u> BCHE2030, BIOL2120, 2210, 2410, 2420, 3012, 3022, 3560, 3570, 3610, 3620, 4010, LSCI1012, 2002#	32
(b) <u>2<sup>nd</sup> Major: Chemistry</u> CHEM1300, 2110#, 2120#, 2200#, 2300#, 2400, 2868, 2878, 3130#, 3220, 3320, 3410	29
3. Elective Courses:	
(a) <u>1<sup>st</sup> Major: Biology</u>	6
i) One laboratory course from BIOL2213, 2313	
ii) At least 5 units chosen from the following: BIOL3310, 3410, 3420, 3510, 3530, 3630, 3710, 4120, 4230, 4240, 4260, 4310, 4420, 4510, 4520, 4610, 4901, LSCI3520#	
(b) <u>2<sup>nd</sup> Major: Chemistry</u>	9
i) Two laboratory courses from CHEM3810, 3830, 3860, 3870	
ii) At least 5 units chosen from the following, of which at most one CHEM course at 3000 level: CHEM3230, 3340, 3420, 4100, 4110, 4200, 4302, 4400, 4440, 4630, 4640, 4710, 4780, 4784, 4785, 4788, ENSC4525, 4535	
4. Research Component/ Capstone Course/ Final Year Project: BIOL4902, 4903	4
<b>Total:</b>	<b>89</b>

#### Explanatory Note:

1. BIOL courses at 2000 and above level as well as those labeled as # will be included in the calculation of Major GPA for honours classification.

	<b>Recommended Course Pattern</b>	<b>Units</b>
<b>First Year of Attendance</b>	1 <sup>st</sup> term Faculty Package: LSCI1002, PHYS1002/1111 Major Required: CHEM2200 Major Elective(s):	3-6 3
	2 <sup>nd</sup> term Faculty Package: CHEM1070, LSCI1002 (if not taken), PHYS1001 (if not taken PHYS1002/1111) Major Required: CHEM1300, LSCI1012 Major Elective(s):	3-6 5
<b>Second Year of Attendance</b>	1 <sup>st</sup> term Major Required: BCHE2030, BIOL2120, CHEM2120, 2868, LSCI2002 Major Elective(s):	12
	2 <sup>nd</sup> term Major Required: BIOL2210, 2410, 2420, CHEM2400, 2878 Major Elective(s): BIOL2213/2313	10 1
<b>Third Year of Attendance</b>	1 <sup>st</sup> term Major Required: BIOL3012, 3560, 3610, CHEM2300, 3220 Major Elective(s): 1-2 CHEM laboratory course(s) (CHEM3810, 3830)	11 2-4
	2 <sup>nd</sup> term Major Required: BIOL3022, 3570, 3620, CHEM2110, 3130 Major Elective(s): 0-1 CHEM laboratory course (CHEM3860) one BIOL course one CHEM course	11 0-2 2-3 2-3
	Summer Session Major Elective: 0-1 BIOL course (BIOL4901)	0-2
<b>Fourth Year of Attendance</b>	1 <sup>st</sup> term Major Required: BIOL4010, 4902, CHEM3320, 3410 Major Elective(s): 0-1 CHEM laboratory course (CHEM3870) one BIOL course one CHEM course	11 0-2 2-3 2-3
	2 <sup>nd</sup> term Major Required: BIOL4903 Major Elective(s): 0-1 BIOL course 0-1 CHEM course	2 0-3 0-3
<b>Total (including Faculty Package):</b>		<b>89</b>

<b>Minor Programme Title</b>	
Biology	
<b>Minor Programme Requirement</b>	
Students are required to complete a minimum of 24 units of courses, with at least 9 units of courses at 3000 or above level, as follows:	
	Units
1. Required Courses:	
(a) LSCI1002, 1012	6
(b) BIOL2120, 2210 or 2410	2
(c) BIOL3560 and 3570 or BIOL3610 and 3620	4
2. Elective Courses (12 units of courses from the following list, including any courses not taken in 1(b) and 1(c) above): BIOL2213, 2313, 2420, 3012, 3022, 3310, 3410, 3413, 3420, 3510, 3530, 3630, 3710, 4010, 4012, 4032, 4120, 4230, 4240, 4242, 4260, 4310, 4420, 4510, 4520, 4610	12
<b>Total:</b>	<b>24</b>

<b>Course List</b>		
<i>Course Code</i>	<i>Course Title</i>	<i>Unit(s)</i>
BIOL2120	Cell Biology	3
BIOL2210	Ecology	3
BIOL2213	Ecology Laboratory	1
BIOL2313	Genetics Laboratory	1
BIOL2410	General Genetics	2
BIOL2420	Population Genetics	1
BIOL3012	Biodiversity Laboratory I	2
BIOL3022	Biodiversity Laboratory II	2
BIOL3310	Human Biology	3
BIOL3410	General Microbiology	3
BIOL3413	Microbiology Laboratory	1
BIOL3420	Advanced Genetics and Epigenetics	3
BIOL3510	Palaeobiology	2
BIOL3530	Plant Physiology	3
BIOL3560	Biology of Fungi and Non-Vascular Plants	2
BIOL3570	Biology of Vascular Plants	2
BIOL3610	Invertebrate Form and Function	2
BIOL3620	Vertebrate Life	2
BIOL3630	Animal Physiology	3
BIOL3710	Marine Biology	3
BIOL4010	Evolutionary Biology	3
BIOL4012	Field and Environmental Biology	2

BIOL4032	Physiological Investigations	2
BIOL4120	Developmental Biology	3
BIOL4230	Global Change Biology	3
BIOL4240	Environmental Impact Assessment	3
BIOL4242	Environmental Impact Assessment Lab	2
BIOL4260	Conservation Biology	3
BIOL4310	Human Genetics	3
BIOL4420	Marine Microbial Ecology	2
BIOL4510	Hong Kong Flora and Vegetation	3
BIOL4520	Plant Metabolism and Metabolic Engineering	2
BIOL4610	Foundation for Secondary School Biology Teaching	3
BIOL4901	Senior Experimental Project I	2
BIOL4902	Senior Experimental Project II	2
BIOL4903	Senior Experimental Project III	2
BIOL4906	Internship	2
BIOL4907	Field Study	2
STAR2000	Undergraduate Research in Science I	1
STAR2050	Seminar I	1
STAR3000	Undergraduate Research in Science II	2
STAR3050	Seminar II	1
STAR4000	Undergraduate Research in Science III	3
STAR4050	Seminar III	1