*(For students admitted in 2022-23 under the 4-year degree)*

# BSc in Biotechnology

In addition to the requirements of their major programs, students are required to complete the University and School requirements for graduation. For details please refer to the respective sections on this website.

Students may use no more than 6 credits earned from courses offered in self-paced online delivery mode to satisfy the graduation requirements of a degree program. This 6-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

For students graduating with an additional major, they must take all the requirements specified for that major, within which they must complete at least 20 single-counted credits. These 20 credits cannot be used to fulfill any other requirements for graduation except for the 120-credit degree requirement.

Under the new 30-credit Common Core Program which is applicable to students admitted to the University in 2022-23 and thereafter, courses that have been counted towards School and/or Major Requirements are not allowed to be reused for fulfilment of the University Common Core Requirements. Students should look up the details of the Common Core Program including the general and School-/program-specific distributional requirements posted on the Common Core website where the link to it is available on this website.

## *Major Requirements*

*Students MUST take the following courses prior to enrollment into the major*

### Major Pre-requisite course(s)

| | | | Credit(s) attained |
|---|---|---|---|
| LIFS | | Note: Students with level 3 or above in HKDSE 1x Biology are exempted from taking LIFS 1901 | 0-3 |
| LIFS | 1901 | General Biology I | 3 |
| LIFS | 1902 | General Biology II | 3 |

### Required Course(s)

| | | | Credit(s) attained |
|---|---|---|---|
| LIFS | | Note: Students with level 3 or above in HKDSE 1x Biology are exempted from taking LIFS 1903 | 0-1 |
| LIFS | 1903 | Laboratory for General Biology I | 1 |
| LIFS | 1904 | Laboratory for General Biology II | 1 |
| LIFS | 2040 | Cell Biology | 3 |
| LIFS | 2070 | Introduction to Biotechnology | 3 |
| LIFS | 2080 | Plant Biology | 3 |
| LIFS | 2210 | Biochemistry I | 3 |
| LIFS | 3060 | Microbiology | 3 |
| LIFS | 3110 | Biotechnological Application of Recombinant DNA Techniques | 3 |

| | | | |
|---|---|---|---|
| LIFS | 3140 | General Genetics | 4 |
| LIFS | 4150 | Plant Biotechnology | 3 |
| LIFS | 4200 | Concepts and Issues in Contemporary Biotechnology | 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 |
| LIFS | 4973 | Biotechnology Project Research I | 3 |
| LIFS | 4983 | Biotechnology Project Research II | 4 |
| SCIE | 4500 | IRE Research Project II | 3 |
| CHEM | 1020 | General Chemistry I | 3 |
| CHEM | 1030 | General Chemistry II | 3 |
| CHEM | 1050 | Laboratory for General Chemistry I | 1 |
| CHEM | 1055 | Laboratory for General Chemistry II | 1 |
| CHEM | | Note: CHEM 2110 OR CHEM 2311 | 3 |
| CHEM | 2110 | Organic Chemistry I | 3 |
| CHEM | 2311 | Analytical Chemistry | 3 |
| CHEM | | Note: CHEM 2155 OR CHEM 2355 | 1 |
| CHEM | 2155 | Fundamental Organic Chemistry Laboratory | 1 |
| CHEM | 2355 | Fundamental Analytical Chemistry Laboratory | 1 |
| CENG | 1600 | Biotechnology and Its Business Opportunities | 3 |
| LANG | | Note: LANG 3024 OR LANG 3027 (Students following IRE Track should take LANG 3027 to fulfill the requirement.) | 3 |
| LANG | 3024 | Science Communication in English (Life Science) | 3 |
| LANG | 3027 | Science Communication in English for Research Students | 3 |

## Elective(s)

| | | | Minimum credit(s) required |
|---|---|---|---|
| LIFS/BIPH/ 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 |
| LIFS | 2010 | Modern Approaches to Biochemical and Cell Biological Research | 3 |
| LIFS | 2060 | Biodiversity | 3 |
| LIFS | 2240 | Cell Biology Laboratory | 3 |
| LIFS | 2280 | Plant Biology Laboratory | 3 |
| LIFS | 2720 | Biochemistry Laboratory | 2 |
| LIFS | 2820 | Biochemical Laboratory Techniques | 1 |
| LIFS | 3010 | Molecular and Cellular Biology I | 3 |
| LIFS | 3020 | Molecular and Cellular Biology II | 3 |
| LIFS | 3040 | Animal Physiology | 3 |

| | | | |
|---|---|---|---|
| LIFS | 3150 | Biostatistics | 3 |
| LIFS | 3220 | Animal Physiology Laboratory | 3 |
| LIFS | 3260 | Microbiology Laboratory | 3 |
| LIFS | 3370 | Human Genetics in Practice | 3 |
| LIFS | 3580 | Bioinformatics | 3 |
| LIFS | 4000 | Special Topics in Life Science | 1-4 |
| LIFS | 4140 | Cancer Biology | 3 |
| LIFS | 4320 | Data Science for Biology and Medicine | 3 |
| LIFS | 4360 | Aquaculture Biotechnology | 3 |
| LIFS | 4370 | Human Genetics and Personalized Medicine | 3 |
| LIFS | 4380 | Pharmacology and Toxicology | 3 |
| LIFS | 4540 | Structure and Function of Proteins | 3 |
| LIFS | 4550 | Biochemistry of Nutrition | 3 |
| LIFS | 4630 | Advanced Topics in Biotechnology | 3 |
| LIFS | 4760 | Biochemistry of Diseases | 3 |
| LIFS | 4800 | Epigenetics and Chromosome Biology | 3 |
| LIFS | 4820 | Entrepreneurship in Biotechnology | 3 |
| LIFS | 4973 | Biotechnology Project Research I | 3 |
| LIFS | 4983 | Biotechnology Project Research II | 4 |
| BIPH | 3010 | Advanced Biological Physics | 3 |
| BIPH | 4010 | Principles of Quantitative Instrumentation | 3 |
| BTEC | 5210 | Principles and Application in Biotechnology | 4 |
| BTEC | 5340 | Biomarkers and Medical Devices | 3 |
| OCES | 1010 | Principles and Applications of Environmental Science | 3 |
| PHYS | 2010 | Introductory Biological Physics | 3 |
| BIEN | 5050 | Global Health Ethics | 3 |
| CENG | 2110 | Process and Product Design Principles | 3 |
| CENG | 4620 | Bioproducts and Processing | 3 |
| CENG | 4670 | Pharmaceutical Engineering | 3 |

## Track Study

### International Research Enrichment Track

Students in the IRE Track should also take SCIE 4500 and LIFS 4983 as specified in the major requirements.

*Required Course(s)*

| | | | Credit(s) attained |
|---|---|---|---|
| LIFS | 3520 | Junior Research Project II | 2 |
| SCIE | 3500 | IRE Research Project I | 3 |