

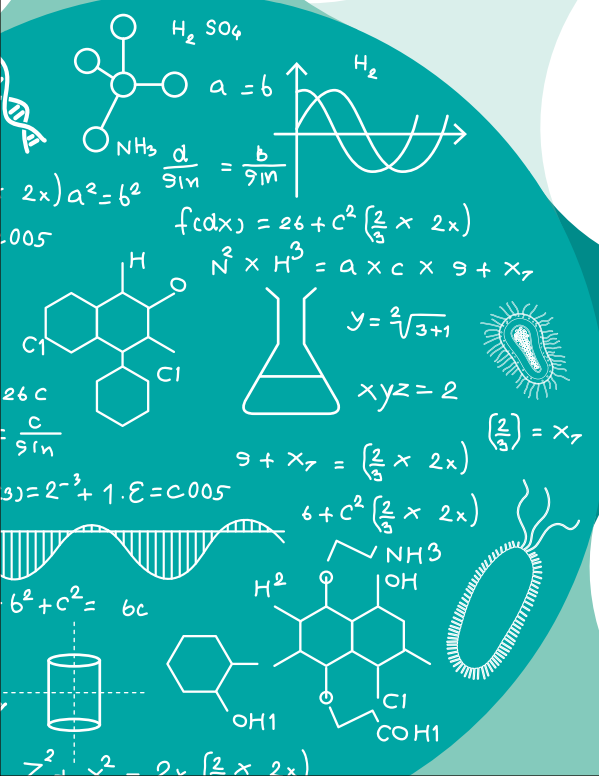
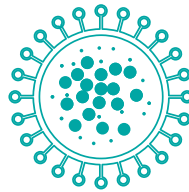


# BSc in Biochemistry and Cell Biology (BCB)

# BSc in Biotechnology (BIOT)

Life Science is a diverse and exciting field with numerous technology and practical applications spanning academia, industry, medicine and agriculture. The Division of Life Science (LIFS) offers three major programs at the undergraduate level:

- BSc in Biochemistry and Cell Biology (BCB)
- BSc in Biotechnology (BIOT)
- BSc in Biotechnology and Business (BIBU) \* jointly offered by the School of Science and the School of Business and Management



## BSc in Biochemistry and Cell Biology (BCB)

Students will study how biomolecules, which are the fundamental building blocks of all living organisms, work harmoniously in cell-free experimental systems (Biochemistry) and also within cells (Cell Biology). The early curriculum is broad-based and teaches students the fundamental concepts and principles of Biochemistry and Cell Biology. This will enable students to explore and develop their own interests in various aspects of modern molecular life sciences. As they progress through the program, they will take more advanced and specialized elective courses. BCB students will also have the option of engaging in intensive practical training and research opportunities.

## BSc in Biotechnology (BIOT)

The Biotechnology (BIOT) program is designed to cover the research and development of biotechnology products and services, including medicines, cosmetics, health supplements and genetic diagnostics. The program provides students with theoretical and practical knowledge of the latest biotechnological developments, with a particular focus on the applied aspects of life science. The curriculum also requires a basic understanding of concepts across various biological spectra including biochemistry, cell biology, molecular biology, microbiology and genetics.

## Program Structure

In Year 1, students will enroll in science foundation courses according to their interests and background, as well as courses in other areas to fulfill the University Common Core requirement.

After completed the major pre-requisite courses, students can declare BCB/BIOT as their major program in Year 2.



For **BIOT** students, they can choose one of two study tracks that have distinct strengths:

**Applied Bioscience Track** - aims at enhancing students' learning through a range of experiential learning or project-based courses. Students will be provided with ample opportunities to tackle real-world problems in biotechnology, formulate experimental plans, devise biotechnological solutions, and transfer practical knowledge to society.

**Entrepreneurship Track** – aims at enhancing students' vision and knowledge of entrepreneurship through various co-curricular activities. Students will be trained to formulate integrated commercial solutions to academic and real-world problems in biotechnology. Students will also be encouraged to enter internal and external entrepreneurial competitions and turn their ideas into commercial practice.

## Research Foci

- Cellular Regulation and Signalling
- Cancer Biology
- Developmental Biology
- Molecular and Cellular Neuroscience
- Macromolecular Structure and Function
- Biotechnology and Medicinal Biochemistry



Faculty members working in these areas form coordinated research teams. Synergy between research laboratories empowered multi-disciplinary investigation of biological problems. At the same time, it creates a stimulating atmosphere in which students experience the challenge of modern research through direct participation.

The Division of Life Science is excellently equipped for research in a broad range of areas. The Laboratory Animal Facility provides a centralized and modern facility for animal studies. Centralized state-of-the-art facilities for biochemical and cellular studies are provided by the Biosciences Central Research Facility.

## Internship and Enrichment Opportunities



Focus Group Meeting - LIFS-related Postgraduate Research & Job Prospects



LIFS Professional Development Workshop

## Career Prospects

### BSc in Biochemistry and Cell Biology (BCB)

The BCB graduates will have a broad range of career options. Students will be well-prepared for postgraduate research studies and future employment opportunities in academic, medical and industrial settings. In addition, BCB graduates will also be fully equipped to pursue other vocational careers in private and government sectors requiring a life science background, including healthcare, biotechnology and education. With recent advances in technology and social expectations driving an expansion in career and employment opportunities, student will have exceptional prospects to pursue their careers in life science.

### BSc in Biotechnology (BIOT)

The BIOT major equips students with various basic and specific biotechnological knowledge to meet the growing demand in the markets of pharmaceuticals, agriculture, business and education. The underlying objective of the major is to provide a fresh supply of capable workforce to propel the local and regional biotechnology industry. Career opportunities are amply available in both the private and government sectors.



## Words from BCB Graduate

During my studies at HKUST, I did two internships: Cardiac Rhythm Management Internship and Ocean Park Dolphin Research Internship. I have worked with a wide range of patients, from children with dental diseases to adults and the elderly with abnormal heart rhythms. From several clinical work experiences, I developed a passion for the healthcare sector. These professional experiences have helped me determine that I want to develop a career in the medical field.

### Ivy TSANG

BSc in Biochemistry and Cell Biology, Class of 2022

## Admissions Requirements

Prospective students may apply for the Science (Group B) program (JS5103) through direct choice in the JUPAS / Non-JUPAS admissions scheme.

Upon completion of the major pre-requisite courses at the end of the first year, students can declare major in BSc in Biochemistry and Cell Biology or BSc in Biotechnology.

The pre-requisite courses include:

- LIFS 1901 General Biology I\*
- LIFS 1902 General Biology II

\* Students with level 3 or above in HKDSE 1x Biology are exempted from taking LIFS 1901.

## JOIN BCB/BIOT PROGRAM GO BEYOND YOUR LIMITS FIND TRANSFORMATION HERE

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### Division of Life Science

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BCB/BIOT website



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