

# 生物化學及細胞生物學 (BCB)

## 課程重點

此主修課程研讀生物分子，即所有有機體的本質，在實驗環境（生物化學）和細胞中（細胞生物學）的運作。初期的課程內容廣泛，讓學生打好穩固基礎，掌握生物化學及細胞生物學的重要概念及理論知識，繼而發掘在現代分子生物學不同領域的興趣。學生之後會修讀多個高級及專門的選修科目，亦可選擇參與密集的實驗室培訓和研究工作。

生物化學及細胞生物學課程為學生在現代生物化學、細胞生物學、分子生物學及基因學等不同範疇打下良好的基礎，培育將來有志於繼續深造及進行學術或工業研究的學生。

## 就業前景

生物化學及細胞生物學課程的畢業生有廣闊的出路。課程為學生日後深造，或在學術、醫學或生化技術的研究工作中就業作好準備。此外，憑藉堅實的基礎，畢業生可以投身公營或私營的職業訓練行業，如：醫療保健、生物科技及教育業。生命科學正處於機遇處處的時期，隨著科技發達及社會期望不斷提升，增加了這學科的就業機會。

# 生物科技 (BIOT)

## 課程重點

此主修課程著重研習與生物科技產品相關的研究、開發及製造的範疇，包括：醫藥、化妝品、農業產品、食物及保健器材。課程為學生提供最新的生物科技發展的理論和實際知識，主要專注於生命科學的應用層面。課程要求學生對生命科學的其他領域，如生物化學、細胞生物學、分子生物學、微生物學及基因學等有一定的認識。

生物科技課程為學生提供堅實的現代生命科學理論訓練，並教授學生生物科技產品研究、開發及製造所需要的實際技能。

## 就業前景

此課程注重裝備學生各種基本及專門的生物科技知識，以滿足製藥業、農業、商業及教育等相關市場的人才需求。課程的目標是成為生物科技界的「人力資源庫」，為市場注入新動力，推動這一門新興產業。政府及私營機構均為畢業生提供充足的就業機會。

# 生物科學 (BISC)

## 課程重點

此主修課程的設計多元化，涵蓋當代生物學中各個主要範疇，如：動植物學、生物演化學及環境生物學等，讓學生了解當中的重要理論、概念及技術。課程的靈活度高，學生可以同時修讀由其他學院提供的選修科目，如工程學、社會科學、人文學及商科等。

生物科學課程教授學生有關係統生物學、健康及教育等與現代生物學相關的知識。透過修讀工學院、人文社會科學院及商學院所提供的選修科目，學生可以擴闊自己的學習範疇。

## 就業前景

生物科學主修課程著重教授廣泛的基本生物學知識，為學生提供各行各業皆需要的可轉移技能培訓，以及培養學生獨立學習的能力。生物科學系的學生在科學探究及批判分析上都有著出色的技巧，大部份的畢業生受聘於需要跨學科知識的工作。此外，透過本科的科學訓練，學生具備優秀的解難能力和分析力，畢業生將有廣泛的職業選擇。

## Pre-major Requirements

Students **MUST** take the following courses prior to enrollment into one of the majors

Major Pre-requisite course (s)	Credits
LIFS 1901 General Biology I	3
LIFS 1902 General Biology II	3

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



## For Inquiries of Academic Nature

### For Bachelor of Science in Biochemistry and Cell Biology (BCB)

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### For Bachelor of Science in Biological Sciences (BISC)

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### For Bachelor of Science in Biotechnology (BIOT)

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### Division of Life Science

<http://life-sci.ust.hk/>

## For Further Information

To know more about the University's facilities, residential accommodation, and other aspects of campus life, please refer to the University's Handbook for Prospective Undergraduate Students.

The Handbook and application forms are available from:

### Undergraduate Recruitment and Admissions Office

The Hong Kong University of Science and Technology

Clear Water Bay, Kowloon Hong Kong

Tel No. : 2623 1118

Fax No. : 2351 1408

Email : [ugjupas@ust.hk](mailto:ugjupas@ust.hk)

<http://join.ust.hk/>



# Division of Life Science





# Division of Life Science

Recent advances in science and technology have ushered in a golden age for Life Science, spanning academia, industry, medicine, healthcare, environment and agriculture. Accordingly we expect to see a sustained demand for the graduates from the different programs within the Division of Life Science (LIFS). Life Science can be studied at multiple levels and angles and can therefore accommodate a wide range of student aptitudes and motivation. The curricula for the three LIFS programs reflect this reality and are tailored for students either with a general interest in Life Science (BISC Program) or for those attracted to more specialized studies of either applied (BIOT Program) or basic Life Science (BCB Program). In addition there is sufficient flexibility for students to switch between LIFS majors should their interests change. Besides subject knowledge and academic rigor, LIFS graduates will develop effective communication skills, independent learning and scientific research capabilities.



## Overview of Undergraduate Programs

### Bachelor of Science in Biochemistry and Cell Biology (BCB)

The BCB program emphasizes basic life science and addresses how complex biomolecules work together either in simplified experimental systems (Biochemistry) or within cells (Cell Biology). The BCB curriculum is broad-based initially thus providing students with a firm foundation in different aspects of biochemistry, cell biology and molecular biology. This will equip students to explore more specialized areas via advanced elective courses as they progress through the program. One of the main features of the BCB program is to nurture students who are motivated to pursue postgraduate training and future careers in biomedical research, either in the academic or industry sector. Accordingly, BCB students are encouraged to undertake significant practical training via both lab courses and actual research in our faculty's research laboratories.

#### Career Prospects:

BCB graduates will have a broad range of career options. Some will be well-prepared for postgraduate research studies and future employment opportunities in academic, medical and biotechnology research. However, BCB graduates will also be fully equipped to pursue other careers in the private and government sectors requiring a life science background, including healthcare, biotechnology and education.

#### Highlight:

- To provide students with a firm foundation in different aspects of modern biochemistry, cell biology, molecular biology and genetics;
- To nurture students who are motivated to pursue postgraduate training and research careers in the academic or industry sector



### Bachelor of Science in Biological Sciences (BISC)

The BISC program will provide students with a broad contemporary knowledge covering the major themes in Life Science, from biomolecules to organisms and systems biology. The flexibility of the BISC program will also allow for students to broaden their skill base by taking more elective courses offered by other academic departments such as Engineering, Social Sciences, Humanities and Business. It will also be feasible for students lacking high school Biology background to enter and prosper in the BISC program.

#### Career Prospects:

This major provides students with comprehensive training in transferable skills as well as opportunities in independent learning required for all career paths. Our Biological Science students are armed with strong skills in acquisition of scientific enquiry and critical thinking and the majority of graduates accept jobs requiring interdisciplinary knowledge. A broad range of career options in private and public sectors will be available to our Biological Science graduates.

#### Highlight:

- To equip the students with knowledge in modern biology related to biosystems, health and education;
- To facilitate students to broaden their skill base via a selection of elective courses in Engineering, Social Sciences, Humanities and Business.



### Bachelor of Science in Biotechnology (BIOT)

Biotechnology involves applications of Life Science to commercial outcomes and solving problems in healthcare, medical diagnostics, agriculture and the environment. The Biotechnology field is well established as reflected by the global occurrence of relevant undergraduate programs. The BIOT program will provide students a sound theoretical training in the necessary aspects of Life Science (biochemistry, cell biology and genetics) but will also emphasize practical realities crucial for biotech product development. The latter aspect defines the BIOT program and will be delivered via a dedicated core curriculum, followed by a large number of specialized elective courses. BIOT graduates will also be well prepared to pursue postgraduate studies.

#### Career Prospects:

Biotechnology is a rapidly growing field and there are ample career opportunities in both the commercial and public sectors at different levels (research, technical, business and management) and in a variety of fields (pharmaceutical, medical, agricultural and educational). The underlying objective of the major is to serve as a biotechnology powerhouse to provide the manpower market with fresh impetus so as to move this emerging industry forward.

#### Highlight:

- To provide students sound theoretical training in modern life sciences;
- To acquaint students with practical skills crucial for biotech product research, development and production.

