

生物科技及商學 (BIBU)

課程重點

生物科技及商學課程是理學院與商學院合辦的課程。課程設計獨特，全面涵蓋生命科學及生物科技不同領域，同時提供基礎商管學科，如會計學、經濟學、財務學、市場學及營運管理學等，為學生提供全面的學習體驗。除此以外，課程亦致力提升學生的批判與創意思考能力，讓他們對環球生物科技發展和應用有更深了解，為日後投身生物科技開發、管理及營銷等工作打下良好基礎。

課程目的為培養兼備生物科技知識及營商技巧的跨學科人才，適合對生物科技應用感興趣並有志成為業內管理及行政人員的學生修讀。

就業前景

生物科技及商業課程設計完善，提供學生全面學習體驗，讓學生在各行各業都能盡展所長。畢業生可於製藥公司、生物科技產品 / 服務供應商，以及生物科技業及製藥業的顧問公司工作。政府及私營機構均為畢業生提供充足的就業機會。

數據科學與技術 (DSCT)

課程重點

數據科學與技術課程是理學院和工學院合辦的課程。在今日數據滿瀉的年代，各行各業對懂得從營運流程中所取得數據作深入分析且善用大數據技術的人才需求若渴。數據科學與技術畢業生將能把握新興就業機遇。此課程旨在裝備學生如何從龐大數據資料當中，運用各種數學模型以及嶄新的工具技術，解讀從不同來源中獲得的數據。

本課程將使學生能夠應用各種數學和資訊科技的工具，並擁有開發資料分析和程式設計的基本知識，使他們能夠從由豐富的資訊來源而獲得的海量資料，來理解和分析實際現象。此外，學生還會透過專家指導和實踐經驗獲得數據分析的實用技能，為將來的事業奠下穩固的基礎。此課程包含各樣的專業領域，包括機器學習、聚類分析、數據採擷、數據庫管理、雲端計算和數據視覺化等。

就業前景

數據科學在各行各業的應用範圍愈趨廣泛，社會對數據科學家和數據工程師的需求驟增。畢業生大多數將被受聘於資訊科技、工程等領域，還有其他範疇的就業機會。例如在金融科技上，數據科學可應用於區塊鏈和比特幣挖礦等；網上零售業則可透過分析客戶數據，設計更個性化的宣傳策略；連醫療上也可以大數據來協助找尋最有可能的治療方法。

數學與經濟學 (MAEC)

課程重點

數學與經濟學課程是理學院和商學院合辦的課程。課程講授數學及經濟兩學科的基礎理論知識，著重訓練學生的計量推理能力和概念理解力，使學生能以數學、經濟及社會科學術語作有效溝通。此跨學科課程尤為適合有志從事計量財務工作，或計劃在應用數學及不同商學領域(如經濟學、運籌學、管理學等)繼續深造的學生。

近年日益複雜的技術型經濟問題，促進了數學和經濟學此兩學科之間的協同。課程提供的一系列高階數學和經濟科目，將為學生在經濟、管理及財務等領域提供充分的計量背景，為日後投身財經業或在研究院深造作良好準備。

就業前景

銀行及金融業對能應用數學工具作財金、經濟分析的人才一直十分渴求，而主修數學及經濟的同學正好具備相關知識及專長，故於本地財金界的就業前景良好。

畢業生擁有綜合和應用數學與經濟學知識的能力，在香港的金融行業有非常大的就業及發展空間。近年不少畢業生均獲一級金融機構及跨國企業受聘，如美國銀行、摩根資產管理及畢馬威。

課程同時為有志於在經濟學、金融數學、統計學及其他商學等範疇繼續深造的學生打下良好的基礎。不少畢業生均獲牛津大學、史丹福大學及耶魯大學等著名大學取錄，繼續升讀其碩士及博士課程。

風險管理及商業智能學 (RMBI)

課程重點

在全球化的時代，風險管理和商業智能是企業規劃和決策的重要一環。資產管理、金融技術、保險業務、市場營銷、醫療保健以及各種挑戰的急速發展，都指出了企業必需通過分析和不斷增長的業務數據來有效評估和緩解風險。風險管理和商務智能理學士學位 (RMBI) 整合了風險管理研究和商務智能研究，在一個獨立的本科課程中滿足了這些市場需求。

科大的風險管理及商業智能學課程，是香港首個整合風險管理及商業智能知識的學位課程。此跨學科課程結合科大商學院、工學院和理學院的專長，使同學於四年本科學習中得到廣泛而深入的學術知識和專業技能。課程設計切合市場需要，並著重訓練學生計量技巧及商業知識應用，當中包括：

- 了解金融機構及其他類型企業的風險，包括市場風險、信用風險、營運風險、及商業風險
- 數學模型及方法用以評估及降低風險
- 透過資料/文字挖掘方法，以及前沿的資訊科技，分析和處理日益增加的大量商業數據供決策之用

FAQ

“What is the difference between the BIBU Program and the existing dual degree program of BSc in Biotechnology and BBA in General Business Management?”

The 4-year BIBU Program has different objectives from the 5-year dual degree program. The dual degree program equips students with in-depth knowledge in both disciplines, whereas the interdisciplinary BIBU Program aims to equip students with the essential knowledge in biotechnology, complemented with business know-how and skills to effectively understand, manage, and market biotechnology initiatives.

“How is the BIBU Program different from studying a Biotechnology degree with a minor in Business?”

Students with a major in biotechnology and a minor in business will receive broad-based science training followed by in-depth theoretical training in biotechnology and bioproduct applications. The minor in business offers students a basic understanding of business but does not provide sufficient training for them to take on biotechnology management or entrepreneurial roles. The BIBU curriculum is designed to include approximately equal credits in biotechnology and business complemented with interdisciplinary courses.

“What is the advantage of applying for direct entry to the BIBU Program?”

Students taking BIBU as their first major are exempted from the SSCI/SBM core course requirements. The curriculum is tailor-made to include only select courses from both Schools, which allows students with dual interests to follow a coordinated and integrated curriculum so that they can adapt to their study earlier to pursue their interest or meet their career goals.

The Bachelor of Science in Biotechnology and Business (BIBU)

Program is suited to high school graduates with a hybrid interest in both biotechnology and business. Ideal candidates will be students who are technically competent and interested in biotechnology applications, and who are eager to develop a managerial or leadership career in the biotechnology- or life science-related industries.

The Program aims to admit around 60 students per year (around 30 through direct entry via JUPAS/Non-JUPAS admission scheme, and around 30 through SSCI/SBM major selection exercise at the end of year 1 study).

Admissions Enquiries

School of Science

The Hong Kong University of Science and Technology
Clear Water Bay, Kowloon, Hong Kong

Tel: (852) 2358 5065 | Fax: (852) 2358 1464

Email: ugscience@ust.hk | Website: <http://bibu.ust.hk>

Jointly offered by:

School of 理學院
Science

 **HKUST**
BUSINESS SCHOOL
香港科大商學院



Bachelor of Science in BIOTECHNOLOGY AND BUSINESS

(BIBU) JS5811

理學士

(生物科技及商學)

Program Introduction

Biotechnology is the application of techniques and processes that utilize biological systems to provide innovative solutions to many complex issues in agriculture, medicine, food, energy and environment. As we enter the 21st Century, critical advancements in the field, together with the continued academic excellence in biosciences and scientific human resources, collectively point to a continued outgrowth of biotechnology industry.

Mainland China is one of the top five emerging biotechnology leaders in Asia Pacific. In light of these booming development, both government and private sectors give fresh impetus to further move this emerging industry forward quickly. As indicated in the 2018-19 Budget of the HKSAR Government, Biotechnology is one of the focused areas for development under the Innovation and Technology sector; ten billion Hong Kong Dollars will be allocated to upgrade the facilities in the Science Park as well as to support enterprises engaged in biotechnology. With enormous potential of biotechnology for the future, there is an increasing demand in both Hong Kong and mainland China for candidates who can serve the industry at the levels of research and development, technical support, and management. Current biotechnology employees are mostly trained in either science or management; talents who possess both technical knowledge and a business mind are scarce in the region.

In view of this, the School of Science (SSCI) and the School of Business and Management (SBM) of HKUST have jointly developed a BSc program in Biotechnology and Business (BIBU) to meet the regional demand for professionals. The interdisciplinary curriculum will equip students with a solid foundation of knowledge and skills to function effectively in the industry, enhance students' creativity and critical thinking skills, and provide them with a global outlook on biotechnology development and applications. The goal is to nurture students to become effective managers and leaders in the biotechnology industry in Hong Kong and Greater China.

Program Structure

The holistic BIBU curriculum spans multiple disciplines including various domains of life science and biotechnology, as well as foundational business subjects including managerial accounting, micro/macro-economics, and operations management.

Interdisciplinary courses such as "Biotechnology and Business Seminar" and "Biotechnology Entrepreneurship and Business Operations" represent unique elements in the curriculum. These courses allow students to make connections between ideas and concepts across the disciplinary boundary of biotechnology and business, deepen their learning experience, and develop their cognitive skills, critical thinking and creative problem solving skills.

This is a 4-year program with a total of 124-134 credits, including:

- University Common Core: 36 credits
- English Communication: 6 credits
- Mathematics: 3-4 credits
- Business: 29 credits
- Science/Life Science: 31-37 credits
- Interdisciplinary Courses: 10-13 credits
- Biotechnology and Business Electives: 9 credits[#]

[#] Students may reuse a maximum of 9 credits of these courses to count towards both Major and University Common Core requirements.



Program Highlights

- A unique undergraduate program specifically designed to groom competent students who are interested to pursue a career in biotechnology- or life science-related industries in the global and particularly the Greater China market
- Broad-based learning experience that cuts across biotechnology, life science applications and business management, providing students a solid foundation to serve and lead in the biotech industry
- Internship opportunities for students to gain practical industry experience, which helps to increase chances of employment post-graduation
- HKUST is ranked No. 2 in Hong Kong and Top 2 in Asia in two business-related disciplines (QS World University Rankings 2019), and No. 12 in Natural Science (QS Asian University Rankings 2019)

Career Prospects

- The holistic BIBU experience prepares students to excel in any career path they aspire to. A wide variety of career opportunities are available in both public and private sectors in Hong Kong and Greater China.
- Potential employers include multinational pharmaceutical companies, vendors of biotechnology products/services, consulting firms focusing on the biotechnology and pharmaceutical industries, and many more.



Admission Requirements

Students may apply for the BIBU program through direct choice in JUPAS/Non-JUPAS admission scheme, or transfer from the Science (Group B) program (JS5103) or any SBM programs after their first year of study. Admission is based on academic results and interviews.

For JUPAS-HKDSE Applicants

Minimum Requirement:

Core Subjects	Minimum Level Required
English Language	4
Chinese Language	3
Mathematics (Compulsory Module)	3
Liberal Studies	2

Elective Subject(s)	
Elective 1: Must be Biology or Chemistry	3
Elective 2: Any Category A subjects / M1/M2	3

JUPAS Score Calculation – Best 6 Subjects with Weighting:

Subjects	Weighting
English Language	x 2
Mathematics (Compulsory Module)	x 2
Biology or Chemistry	x 1.5
Next best 3 subjects	x 1

For Applicants with International Qualifications

In addition to fulfilling the University's general requirements, applicants must have at least one senior level subject from:

Biology / Chemistry / Mathematics



BSc in Data Science and Technology

數據科學與技術 (理學士)

A joint program offered by
Department of Computer Science and Engineering
and
Department of Mathematics

Learn Data Science and Technology! Explore Brave New World!
探索數據科學與技術！發掘新時代潛能！

Online Mobile Marketing



Gaming



Self-Driving Car



Program Overview:

We are living in a world full of massive data. How to interpret and utilize the data with advanced strategies and technologies? The data science and technology program will equip students with various mathematical tools, data analytical skills and IT technologies to make sense of data obtained from various sources. Through four years training, students are expected to be familiar with basic knowledge of data analytics, programming skills, mathematical modeling. Students will be provided industry experience to apply their knowledge to real life application. This program provides students rigorous training not only on hands-on skills but also on the mathematical and computational background that will give them a solid foundation for their future career.

Admission:

Students from the School of Science [*JUPAS Code 5102 (SSCI-A)*] or the School of Engineering [*JUPAS Code 5200*] through SBA route (School-Based Admission) after they have finished the first year of study and completed the major pre-requisite courses. Selection criteria will follow the rules adopted by the School of Science and the School of Engineering on prioritizing the students' major choices.

Intake Quota: 40





Career Prospects:

A lot of data specialist/scientist positions are created every day in various business and industry sectors to make use of the massive datasets collected there. Graduates of data science and technology is of high demand in today's job market, and most of them will be employed in those sectors such as IT, engineering, and finance. There will be other career opportunities such as management and sales etc.



Essential Skills in DSCT:

Probability and Statistics, Data Visualization, Machine Learning, Programming, Cloud Computing, etc.



Jointly offered by:

School of 理學院
Science

dsct.ust.hk





Career Prospects

- Promising career opportunities in the banking and finance industry for MAEC graduates who are capable of applying mathematical tools to financial markets and economic forecasting
- Interdisciplinary training highly valued by employers: more diverse career options than those majoring in Mathematics or Economics alone
- Sufficient academic background for entry into advanced/professional degree programs in economics, financial mathematics, statistics, and other business-related fields
- Recent placements include:
 - Top-tier financial institutions, consulting firms, and IT companies
 - Doctoral or Master's programs at leading universities such as Chicago, Columbia, Stanford, and Yale



Admissions Enquiries

School of Science

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香港科技大學
 THE HONG KONG
 UNIVERSITY OF SCIENCE
 AND TECHNOLOGY

BSc in Mathematics and Economics (MAEC)

理學士(數學與經濟學) JS5813



MTPC-G21680



Jointly offered by:

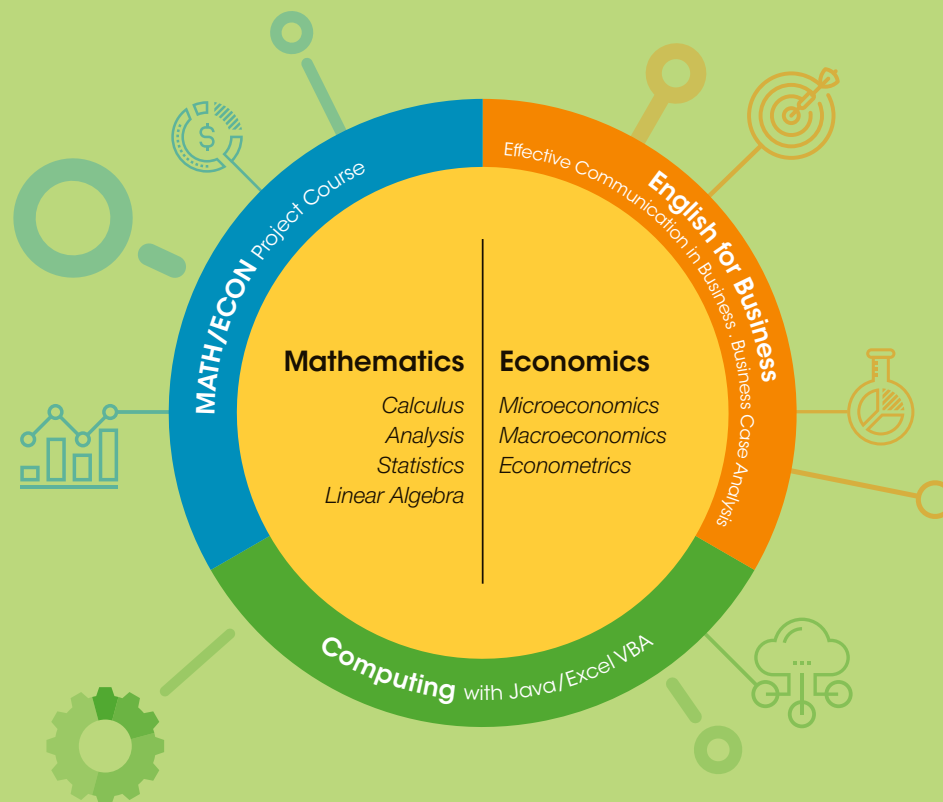
School of 理學院
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Program Highlights

- Unique undergraduate program in Hong Kong that combines modern economic theory with mathematical skills
- Strong quantitative training in economics, preparing students for a successful career in the business, finance, or public sectors
- Broad-based education that instills lifelong learning skills



Program Curriculum

The curriculum provides students with solid training in the fundamental theories of both mathematics and economics. Students will be equipped with quantitative reasoning skills, conceptual understanding, and the ability to effectively communicate in mathematics and in the language of social sciences.



Admissions Requirements

Students may apply for the MAEC program through direct choice in JUPAS/ Non-JUPAS admissions scheme, or transfer from the Science (Group A) program (JS5102) or any SBM programs after their first year of study. Admissions is based on academic results and interview performance.

For JUPAS-HKDSE Applicants

Core Subjects	Minimum Level Required
English Language	4
Chinese Language	3
Mathematics (Compulsory Module)	3
Liberal Studies	2
Elective Subjects	
Elective 1: One of: M1 / M2 / Economics / Biology / Physics / Chemistry / Combined Science	3
Elective 2: One of: M1 / M2 / Any Category A subjects	3

JUPAS Score Calculation – Best 6 Subjects with Weighting

Subjects	Weighting
English Language	x 2
Mathematics (Compulsory Module)	x 2
Best Elective: M1 / M2; or Economics / Biology / Physics / Chemistry / Combined Science	x 2 x 1.5
Next best 3 subjects: M1 / M2 / Any Category A subjects	x 1



For Applicants with International Qualifications

In addition to fulfilling the University's general requirements, applicants must have at least one senior level subject from: Mathematics / Biology / Chemistry / Physics