



香港浸會大學
HONG KONG BAPTIST UNIVERSITY



香港浸會大學理學院
HKBU Faculty of Science



FACULTY OF SCIENCE

UNDERGRADUATE PROGRAMMES

JS2510
BACHELOR OF SCIENCE

JS2910
BSC (HONS) IN
BUSINESS COMPUTING AND
DATA ANALYTICS

DIVERSE & UNIQUE

PROGRAMME CHOICES

JS2510

Bachelor of Science (Broad-based)

The Year 1 broad-based curriculum allows students to explore and experience various scientific disciplines before choosing their Major study programme in Year 2.

5 DEPARTMENTS
OFFER

9 MAJOR
PROGRAMMES

1 Applied Biology

2 Applied Biology and
Ecology and Conservation
(Double Degree)

3 Bioresource and
Agricultural Science

4 Analytical and Testing Sciences

5 Chemistry

6 Computer Science

7 Mathematics and Statistics

8 Mathematics and Statistics
and Actuarial Science
(Double Degree)

9 Physics and Green Energy

1 Applied Biology

Two concentrations: • **Biotechnology** •
• **Environmental Science** •

- ▶ Preparation for career in biological research, biomedical and biotech industry, as well as environmental management and conservation
- ▶ Environmental Science concentration – HKIQEP* accredited in FIVE areas, namely (1) Environmental Science; (2) Environmental Management; (3) Environmental Impact Assessment and Health Impact Assessment (EIA&HA); (4) Water; and (5) Waste

*Hong Kong Institute of Qualified Environmental Professionals Limited

2 Applied Biology and Ecology and Conservation (Double Degree)

- ▶ Double Degree Programme jointly offered with **University of Lincoln, UK**
- ▶ 3 years in Hong Kong plus 1 year in UK
- ▶ Gain fundamental and advanced knowledge and skills to address problems and challenges related to environmental protection and conservation of biodiversity
- ▶ Only students studying Environmental Science concentration are eligible

BIOLOGY



3 Bioresource and Agricultural Science

- ▶ The first and unique agriculture-related professional training programme in Hong Kong
- ▶ Hands-on experience in agricultural technology and bioresource conservation with experiential and internship opportunities

CHEMISTRY

4 Analytical and Testing Sciences

- ▶ An interdisciplinary-designed programme to well-equip students with strong foundation in Chemistry, Bioanalysis and Data Acquisitions
- ▶ Preparation for the employment in the Testing and Certification Industry

5 Chemistry

- ▶ In-depth knowledge in both pure and applied chemistry
- ▶ Solid preparation for chemical processing / analysis industries in both commercial and public sectors



COMPUTER SCIENCE



6 Computer Science

Four concentrations: • **Computing and Software Technologies (CST)** •
• **Information Systems and Analytics (ISA)** •
• **Artificial Intelligence (AI)** •
• **Data and Media Communication (DMC)** •

- ▶ CST and ISA – HKIE accredited concentrations for training computer science professionals for Information and Communication Technology (ICT)-related career and postgraduate studies
- ▶ AI – Training for AI-related projects using computational methods
- ▶ DMC – An interdisciplinary concentration co-offered with the Department of Journalism, School of Communication and Film, HKBU

MATHEMATICS

7 Mathematics and Statistics

- ▶ Preparation for careers as practicing mathematicians and/or statisticians



8 Mathematics and Statistics and Actuarial Science (Double Degree)

- ▶ Double Degree Programme jointly offered with **Simon Fraser University, Canada**
- ▶ 2 years in Hong Kong plus 2 years in Canada
- ▶ Leverage with the quantitative and market skills of mathematics, statistics and actuarial science with corporate financial management practices

PHYSICS

9 Physics and Green Energy

- ▶ Internship and preparation for professional certifications; careers in the rapidly growing renewables and sustainability sectors, such as energy audit, energy consulting and green building
- ▶ Analytical and practical training for further studies/employment in high-tech companies

* *The BSc (Hons) in Physics and Green Energy programme is under review. We plan to put a much stronger emphasis on the Green Energy study starting 2022-23, subject to the approval of the University.*



JS2510 ADMISSION SCHOLARSHIPS

FOR SCIENCE STUDENTS

Science Entrance Scholarship

Hall Scholarship Scheme

International Merit Scholarship

HKBU Science Double Degree[#]
Entrance Scholarship for
Local Students

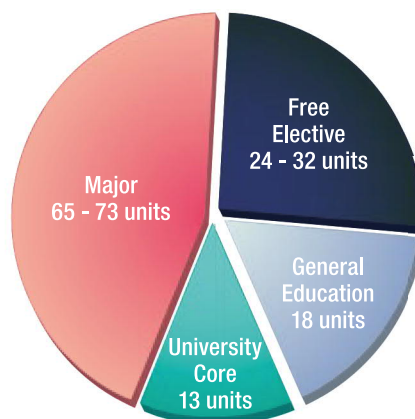
[#] BSc (Hons) in Mathematics and Statistics and
BSc in Actuarial Science



JS2510 CURRICULUM

Total: 128 units

* Total unit requirement of BSc (Hons) in Bioresource and Agricultural Science is 129 units with the additional unit for summer internship.



JS2910

BSc (Hons) in Business Computing and Data Analytics (Programme-based)

JS2910
PROGRAMME
DETAILS



- ▶ **Interdisciplinary Training** for both ICT-related and business-related students in advanced programming, data-analytics skills and in creating innovative business systems & applications
- ▶ **Mentoring** opportunities from experienced industrial professional and executives
- ▶ **Internship / Placement** to gain Fintech and data analytics work experience
- ▶ **International Exchange / Attachment** to diversify students' learning experience



EXPERIENTIAL & SERVICE LEARNING

(Hands-on Learning Experiences Outside Classroom)

Physics students were supported to participate in the **World Energy Engineering Congress** in USA.



Field excursion of Biology students in **Madagascar, East Africa.**



Biology students assisted in field surveys for marine protection in the **Marine Megafauna Foundation, Indonesia.**



STUDENT LIFE

Nature exploration trips were held in **Sabah, Malaysia** and **Sri Lanka** for Biology students to overseas biodiversity hotspots in summer.



Chemistry students contributed their food analysis knowledge and **service to the Foodlink Foundation** - a local food charity. They collected surplus food and bread from hotels and bakeries, and helped out in the delivery of these food to the needy people in Hong Kong.



The Department of Computer Science organised the **Joint Workshop on Design for Sustainability** with the Unit of Design of Kyoto University, Japan and the Institute of Creative Industries Design of National Cheng Kung University, Taiwan, in Kyoto and Hong Kong.



Biology students joined **summer experimental studies** in **St. Petersburg, Florida**.



GLOBAL EXPOSURE - EXCHANGE

(Global Outlook, Cross-Cultural Exchange, Communication Skills Improvement)

- ▶ Canada: McGill University, Simon Fraser University, The University of British Columbia
- ▶ Finland: University of Jyväskylä
- ▶ France: Université Catholique de l'Ouest
- ▶ Germany: Berlin School of Economics and Law
- ▶ Japan: Kwansai Gakuin University
- ▶ Norway: University of Bergen
- ▶ UK: King's College London, University of Wales Trinity Saint David
- ▶ USA: Carroll University, Eckerd College, Georgia State University, Hawaii Pacific University, Iowa State University

McGill University, Canada

CHEN Dezhi
Computer Science, Year 3

"The whole experience had intrinsically motivated me to pursue my personal excellence in my future study and career."



University of Jyväskylä, Finland

HE Yanjie

Green Energy Science, Year 3

"The experience is awesome and meaningful. I learnt snowboarding and skiing and made many friends. I also travelled to many European countries. I saw northern light in Santa Claus Village and tried Glacier hiking in Iceland."



Eckerd College, USA

TING Jiat Yin (first left) and
CHEN Tian (first right)
Applied Biology, Year 2

The two Biology students conducted dolphin monitoring with the team at Eckerd College.



University of Bergen, Norway

LAI Ka Hei (right)

Mathematics and Statistics, Year 4

"Visiting Norway's capital Oslo with my Math buddies! We are very hardworking throughout the year and it's time to enjoy ourselves! Glad to meet these guys and learn under different academic atmosphere."



UNDERGRADUATE RESEARCH EXPERIENCES

(Research Experiences in Prestigious Overseas Universities or Centers)

Overseas Research Scholarship Scheme for Outstanding Students

Every summer, up to eight Year 3 students are awarded the scholarships to undertake research attachments in overseas prestigious universities, for example:

- ▶ Imperial College London, UK
- ▶ McGill University, Canada
- ▶ Nanyang Technological University, Singapore
- ▶ Université du Québec, Canada
- ▶ University of Bergen, Norway



Imperial College London, UK

MAK Ho Nam
Chemistry, Year 3

"It is a wonderful moment to work in one of the best universities in the world. I was able to participate in cutting-edge research and worked under the supervision of the distinguished professor."

McGill University, Canada

TAN Shuyao (right)
Computer Science, Year 3

"McGill University is a world famous university and ranks first in Canada. People here are very kind, helpful and professional. I feel much honored to have a chance working here with many intelligent minds."



Other Overseas Research Experiences



Simon Fraser University, Canada

DENG Yuli (left)
Mathematics and Statistics, Year 3

"The teaching here weights practical application a lot and I believe this will help me a lot in both my future research and career. Moreover, I cannot be more grateful that Professor Lockhart provided me this chance to work with him!"

Aalborg University, Denmark

WANG Haixin (third right)
Computer Science, Year 4

"The research trip in Denmark is a very valuable experience for me. I viewed a lot of beautiful sceneries, got some interesting stories and met many cute people. It trained me in both life skills and academic researching."



INTERNSHIPS

(Real-life Applications, Integrate Knowledge in Workplace)



City Farm

TO Wang Hei

Bioresource and Agricultural Science, Year 2

"I am grateful to have this valuable opportunity to gain practical experiences and know more about urban farming. I strongly believe that these experiences will help me better prepare for my future studies and careers."

Conservation Office, Museum of Arts

TAM Pui Lam

Analytical and Testing Sciences, Year 3

"It is my honor to have joined the Conservation Office summer internship. I learned how to communicate with other colleagues and how to develop an analytical method to analyze the data efficiently and accurately."



Hong Kong Observatory, The Government of the HKSAR

YEAP Yee See Jamie

Mathematics and Statistics, Year 3

"It was an interesting experience to work at HKO as I learned the usage of data extraction and analysis in daily life aside from what was taught in a classroom."

Local Internships

Government:

- ▶ Agriculture, Fisheries and Conservation Department
- ▶ Census and Statistics Department
- ▶ Conservation Office, Museum of Arts
- ▶ Drainage Services Department
- ▶ Electrical and Mechanical Services Department
- ▶ Environmental Protection Department
- ▶ Hong Kong Observatory
- ▶ Hong Kong Wetland Park

Companies / Organisations:

- ▶ City Farm
- ▶ CLP
- ▶ Convoy Financial Services
- ▶ HK Electric
- ▶ Maxim's
- ▶ Shun Hing Engineering Contracting Co. Ltd.
- ▶ The Hong Kong Jockey Club

Overseas Internships

- ▶ AdvocAid, Singapore
- ▶ Department of Mathematics and Computer Science, University of Perugia, Italy
- ▶ Royal Institution of Chartered Surveyors (RICS) Oceania, Australia
- ▶ Scandinavian Green Roof Institute, Sweden
- ▶ The Centre: Connecting Community in North & West Melbourne Inc., Australia
- ▶ The Museum of Science and Industry, USA

Department of Mathematics and Computer Science, University of Perugia, Italy

JIN Tian

Computer Science, Year 3

"I have gained unforgettable and colorful internship experience. What impressed me the most is the relaxing office atmosphere. Italy is a romantic and historical country."



Scandinavian Green Roof Institute, Sweden

CHAN Wing Sze

Applied Biology, Year 3

"I did different kinds of garden works, such as weeding, planting, seeding, watering, removal and installation of surface. I also followed the guided tour that introduces the new idea and design related to environmental protection, energy saving and greening."

Royal Institution of Chartered Surveyors (RICS) Oceania, Australia

KO Yi Man Chloe (front, second left)

Statistics and Operations Research, Year 4

"Having an internship in RICS Oceania was an invaluable experience. I gained some insights into the real estate industry and an overview of the operation of RICS."



VIBRANT STUDENTS

INNOVATION AND TECHNOLOGY SCHOLARSHIP AWARD

Our Science students were awarded the scholarship of HK\$150,000 under the Innovation and Technology Scholarship Award Scheme for 3 consecutive years. The scholarship supported them to **participate in an exchange study overseas**, e.g. King's College London in UK, University of Auckland in New Zealand and University of California in Berkeley.



KWOK Yan Yi (left)
Chemistry, Year 3

CHAN Wing Sing (right)
Applied Biology, Year 3



SEE Shing Yi James (right)
Computer Science, Year 2

WU Ho Hoi Thomas (second right)
Applied Biology, Year 2



University of Auckland, New Zealand

CHAN Wing Sing
Applied Biology, Year 3

"The scheme did not only provide me with an incredible chance to set foot in a piece of wonderland to explore the sciences that are changing conservation and ecology, it also brought me in contact with brilliant and enthusiastic minds from across the fields."



King's College London, UK

KWOK Yan Yi
Chemistry, Year 3

"The scholarship provided me an opportunity to visit King's College London for a semester to broaden my horizons, to experience various cultures and to strengthen practical skills through experiments. Studying at HKBU with tremendous learning opportunities also inspires me to pursue my dream - to devote myself to science and contribute to the society."





HSBC SCHOLARSHIP SCHEME

CHUNG Nga Ki and SIDDIQUE Akib were awarded scholarships under the HSBC Scholarship Scheme.

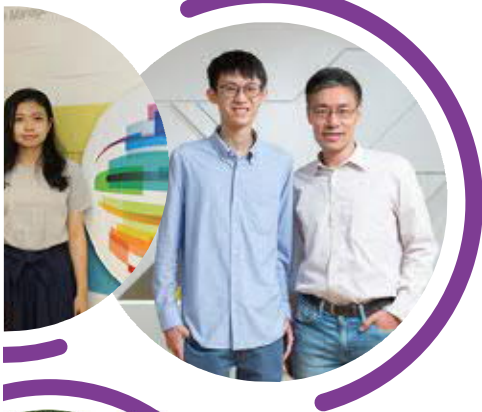
HONG KONG SCHOLARSHIP FOR EXCELLENCE SCHEME

Donald CHUNG and Alex WONG were selected as one of the awardees of the Hong Kong Scholarship for Excellence Scheme to **pursue postgraduate studies at world-renowned universities** with a scholarship of up to HK\$300,000 per annum.



HKMA – INFORMATION TECHNOLOGY MANAGEMENT CLUB SCHOLARSHIP

TAM Chi Him, KWAN Ying Kin and LAI Sin Man were awarded Hong Kong Management Association – Information Technology Management Club Scholarship.



WORLDWIDE COMPETITIONS

HKBU Computer Science teams won First Class Award in international student supercomputer challenge for **3 consecutive years**



Bootcamp

IP Pei Ting (front, third left)
Analytical and Testing Sciences, Year 4

IP Pei Ting participated in a holistic entrepreneurship Bootcamp where participants could form teams, pitch ideas, attend interactive lectures conducted by **University of California, Berkeley** consultants, receive one-on-one mentoring from industry experts and learn in a collaborative environment.



ALUMNI



OPER
Technology Limited
CEO

Cathy LUI
Applied Biology (2008)
PhD in Neuroscience (2011)



Paypal, USA
Software Engineer

LI Hui
Computer Science (2016)



Uber, USA
Software Engineer

CHAO Yang
Physics (2012)



NVIDIA AI Technology Center HK

Senior Data Scientist and
Deputy Director
CHEUNG Ka Chun (first right)
Applied and Computational
Mathematics (2011)
PhD in Mathematics (2016)



Nano and Advanced Materials Institute Limited

Technical Manager
Eric KWOK
Applied Chemistry (2007)



Amazon, USA
Data Scientist II

GENG Qinxin (second right)
Statistics and Operations
Research (2011)



J.P. Morgan
Associate

WANG Zi
Computing Studies
(Information Systems) (2015)



HSBC
Senior Platform Architect

CHAN Ka Ho
Computer Science (2005)
MPhil in Computer Science
(2008)



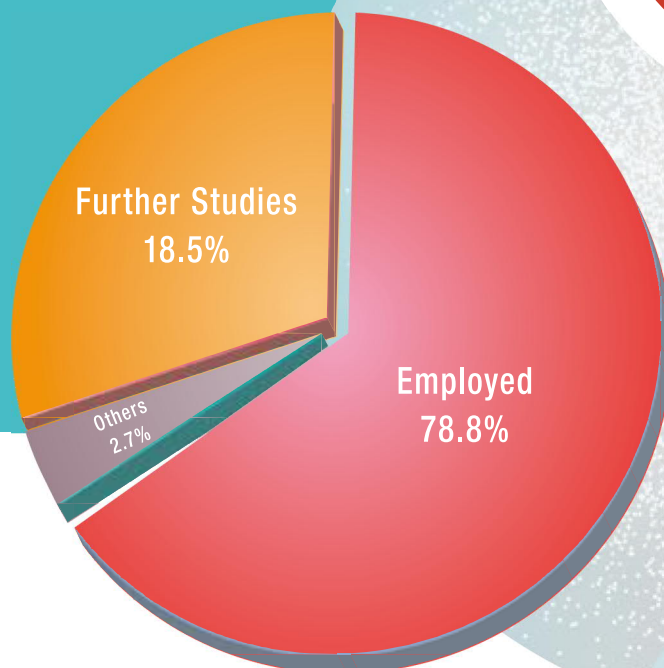
Citibank
Specialised Analysis Analyst

YIM Tze Fung
Statistics and Operations
Research (2017)

DEVELOP YOUR CAREER

HKBU Science graduates' employment rate averaged 97.3% in the past 5 years, inclusive of 18.5% further studies.

*Information on employment status was gathered up to December each year.



EMPLOYMENT OF SCIENCE GRADUATES

Our graduates receive broad-based training that equips themselves with experiences in analyzing scientific problems using inter-disciplinary approach. Therefore they are well-prepared for employment in various sectors including the followings but not limited.

Government Departments and Related Organisations

- ▶ Agriculture, Fisheries and Conservation Department
- ▶ Census and Statistics Department
- ▶ Civil Aviation Department
- ▶ Drainage Services Department
- ▶ Fire Services Department
- ▶ Hong Kong Correctional Services
- ▶ Hospital Authority
- ▶ Immigration Department
- ▶ Labour Department
- ▶ Leisure and Cultural Services Department
- ▶ MTR Corporation Limited
- ▶ Office of the Government Chief Information Officer
- ▶ Transport Department

Banking / Finance


- ▶ Bank of China
- ▶ Citibank
- ▶ Credit Suisse
- ▶ Hang Seng Bank
- ▶ HSBC
- ▶ JPMorgan Chase
- ▶ Standard Chartered

Business / Commerce

- ▶ Amazon
- ▶ ASTRI – Hong Kong Applied Science and Technology Research Institute
- ▶ Audi
- ▶ Cathay Pacific
- ▶ Cisco
- ▶ Disney
- ▶ EPSON
- ▶ HAECO
- ▶ IBM
- ▶ Jardines
- ▶ Microsoft
- ▶ Ocean Park Hong Kong
- ▶ OPER TECHNOLOGY
- ▶ ORACLE
- ▶ PayPal
- ▶ SIEMENS
- ▶ Uber
- ▶ YAHOO!

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UNDERGRADUATE
PROGRAMMES



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