



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



# 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

**8** MAJOR  
PROGRAMMES

**1** Applied Biology

**2** Bioresource and  
Agricultural Science

**3** Analytical and Testing Sciences

**4** Chemistry

**5** Computer Science

**6** Mathematics and Statistics

**7** Mathematics and Statistics  
and Actuarial Science  
(Double Degree)

**8** 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



## 2 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

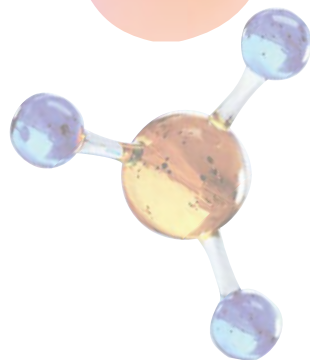
# CHEMISTRY

## 3 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

## 4 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



## 5 Computer Science

Three concentrations: • **Computing and Software Technologies (CST)** •  
• **Information Systems and Analytics (ISA)** •  
• **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
- ▶ DMC - An interdisciplinary concentration co-offered with the Department of Journalism, School of Communication, HKBU

# MATHEMATICS

## 6 Mathematics and Statistics

Five concentrations: • **Actuarial Statistics** •  
• **Financial Risk Management** •  
• **Operations Research** •  
• **Quantitative Data Analysis** •  
• **Scientific Computing** •

- ▶ Enhanced quantitative skills of mathematical & statistical tools and computational programming



## 7 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

## 8 Physics and Green Energy

Two concentrations: • **Applied Physics** •  
• **Energy Management & Technology** •

- ▶ Preparation for the international certification to be a Certified Energy Manager



## JS2510 ADMISSION SCHOLARSHIP FOR SCIENCE STUDENTS

Science Entrance Scholarship

Hall Scholarship Scheme

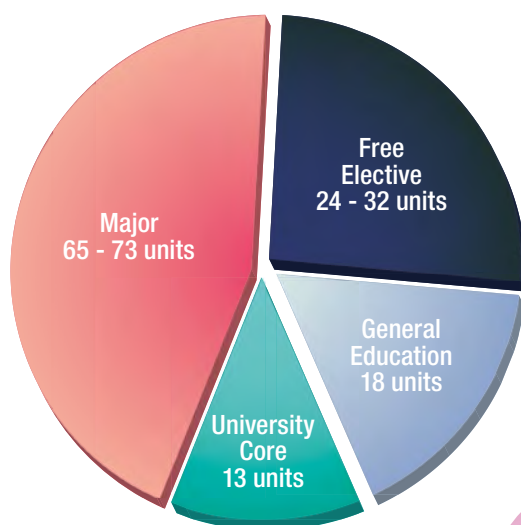
HKBU Science Double Degree Entrance Scholarship for Local Students



## 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)

- ▶ **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

JS2910 PROGRAMME DETAILS



# EXPERIENTIAL & SERVICE LEARNING

(Hands-on Learning Experiences Outside Classroom)

Physics students were supported to participate in the **World Energy Engineering Congress** in USA from 2014 to 2019.



**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

## Hawaii Pacific University, USA

**WONG Sze Wan Tiffany** (left)  
Analytical and Testing Sciences, Year 4

"I not only learnt more about myself but also gained maturity through the challenges I faced during my exchange journey and understanding of another culture to better understand my own culture."



## 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

In 2019 summer, seven Year 3 students were awarded the scholarships to undertake research attachments in overseas prestigious universities including:

- ▶ 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. It is also a good chance for me to explore London. I visited the landmark such as the Tower Bridge, Buckingham Palace, London Eye, etc.”

### 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. The city Montréal itself is also fascinating and vibrant, full of activities like music festivals and sport games.”



## 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 during the 2019 summer, which provides me another chance to learn things way beyond knowledge!”

### 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)



## **Agriculture, Fisheries and Conservation Department, The Government of the HKSAR**

**AU Ming Fung Franco**  
Applied Biology, Year 4

"I was given the opportunities to assist in flora conservation, like afforestation and tree caring. Working there was a great experience for me in not only learning practical knowledge, but also improving my communication skill and better understanding the professional workplace."



## **HK Electric**

**HUYNH Ka Chun Kennie**  
Green Energy Science, Year 4

"I could see how HK Electric cooperate with the government energy policies such as the Scheme of Control Agreement (SCA) and 2030+ by implementing a plenty of schemes in the company to the society and enterprises."



## **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
- ▶ Drainage Services Department
- ▶ Electrical and Mechanical Services Department
- ▶ Environmental Protection Department
- ▶ Hong Kong Observatory
- ▶ Hong Kong Wetland Park

### Companies / Organisations:

- ▶ 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 (2017 - 2019). 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

AU Ming Fung , KWOK Yan Yi , CHAN Wing Sing and WONG Chun Wai, were awarded scholarships under the HSBC Scholarship Scheme. Among the awardees, WONG Chun Wai received the HSBC Overseas Scholarship of HK\$180,000.



### University of Alberta, Canada

**WONG Chun Wai**  
Applied Biology, Year 2

“Studying at University of Alberta on behalf of HKBU and HSBC Overseas Scholar was nothing but a privilege for me. Since then, I became more passionate in my study, independent of taking care of myself and having a clearer direction for my post-graduation planning.”



## WORLDWIDE COMPETITIONS

**HKBU Computer Science teams won First Class Award in international student supercomputer challenge for 3 consecutive years (2016-2018)**



### Bootcamp

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

IP Pei Ting participated a holistic entrepreneurship Bootcamp where participants can 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.



### HKBU Computer Science Team won a silver medal at the Huawei Cloud AI Developer Contest

**WANG Shihao** (third left)  
Computer Science, Year 4

“This competition was, for me, a bridge between industry and academia, which gave students a vision on what was required by the industry and a chance to apply the theories to real-world applications.”



# ALUMNI



**OPER**  
**Technology Limited**  
CEO

**Cathy Lui**  
Applied Biology (2008)  
PhD in Neuroscience (2011)



**Paypal, USA**  
Software Engineer

**LI Hui**  
Computer Science (2016)



**Hong Kong Applied  
Science and Technology  
Research Institute**  
Project Manager

**CHEUNG Ka Chun (first right)**  
Applied and Computational  
Mathematics (2011)



**Uber, USA**  
Software Engineer

**CHAO Yang**  
Physics (2012)



**Amazon, USA**  
Data Scientist II

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



**Nano and Advanced  
Materials Institute  
Limited**  
Technical Manager

**Eric KWOK**  
Applied Chemistry (2007)



**HSBC**  
Relationship Manager

**CHAN Chi Wing Alex**  
Statistics and Operations  
Research (2014)



**J.P. Morgan**  
Associate

**WANG Zi**  
Computing Studies  
(Information Systems) (2015)



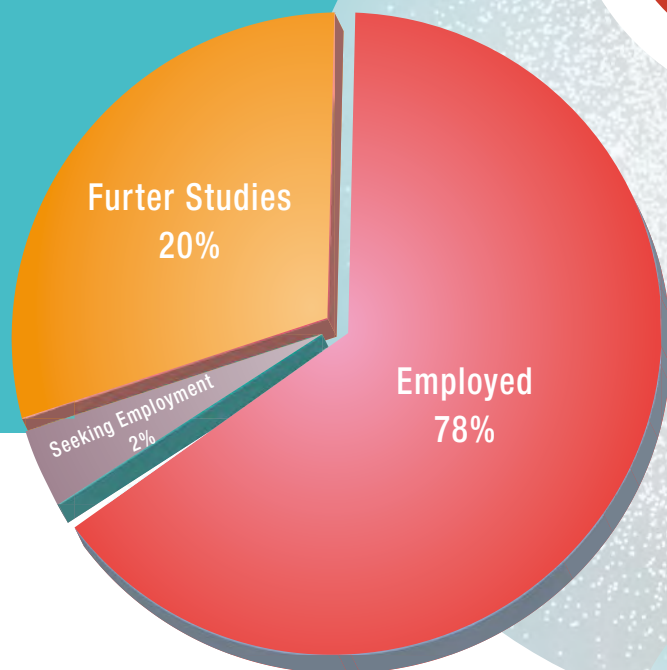
**The Jockey Club Kau  
Sai Chau Public Golf  
Course Limited**  
Golf Course Superintendent

**CHAN Wai Yee Christine (right)**  
Applied Biology (1996)

# DEVELOP YOUR CAREER

HKBU Science graduates' employment rate is 98% in the past 3 years, inclusive of 20% 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

- ▶ Census and Statistics Department
- ▶ Civil Aviation Department
- ▶ Fire Services Department
- ▶ Hong Kong Correctional Services
- ▶ Hospital Authority
- ▶ Immigration Department
- ▶ Leisure and Cultural Services Department


### Banking / Finance


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

### 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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