

# FACULTY OF SCIENCE

## UNDERGRADUATE PROGRAMMES

**JS2510**

BACHELOR OF SCIENCE (HONS)

**JS2910**

BSC (HONS) IN BUSINESS COMPUTING  
AND DATA ANALYTICS

# DIVERSE & UNIQUE

## PROGRAMME CHOICES

# JS2510

Bachelor of Science (Hons)  
(Broad-based)



JS2510  
PROGRAMME  
DETAILS

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

5 DEPARTMENTS  
OFFER

7 MAJOR  
PROGRAMMES

- 1 Applied Biology
- 2 Applied Biology and Ecology and Conservation (Double Degree)
- 3 Bioresource and Agricultural Science
- 4 Biochemical and Testing Sciences
- 5 Computer Science
- 6 Mathematics and Statistics
- 7 Green Energy and Smart Technology



## 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 the UK

Students will 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.

## CHEMISTRY



## BIOLOGY

### 1 Applied Biology

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

The programme prepares students for career in biological research, biomedical and biotech industry, as well as environmental management and conservation.

Environmental Science concentration – HKIQEP\* accredited in FIVE areas:

- (1) Environmental Science
- (2) Environmental Management
- (3) Environmental Impact Assessment and Health Impact Assessment (EIA&HA)
- (4) Water
- (5) Waste

\*Hong Kong Institute of Qualified Environmental Professionals Limited

### 3 Bioresource and Agricultural Science

The first and unique agriculture-related professional training programme in Hong Kong.

Students will gain hands-on experience in agricultural technology and bioresource conservation with experiential and internship opportunities.

### 4 Biochemical and Testing Sciences

**Two concentrations:** • **Biomedical Chemistry (BMC)**  
• **Testing and Certification (T&C)**

The aim of the programme is to provide students with a strong foundation in all principal areas of chemical sciences. The curriculum is designed to equip students with ample knowledge and skills in (applied) chemistry and biochemistry, solving real-world scientific problems especially in biomedicine and (bio)chemical testing. Emphasis will also be placed on developing students' analytical mind, logical and critical thinking, and problem-solving skills, which are the essential generic capabilities in employment and postgraduate study.

## COMPUTER SCIENCE

### 5 Computer Science

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

AI, CST and ISA:  
HKIE\* accredited concentrations are 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.

\*The Hong Kong Institution of Engineers



## MATHEMATICS

### 6 Mathematics and Statistics

The programme offers unique curriculum integrating Mathematics and Statistics. It also prepares for careers as practising mathematicians, statisticians, and/or data scientists.

The concentrations offered by the programme provides flexibility of graduation with different pathways.

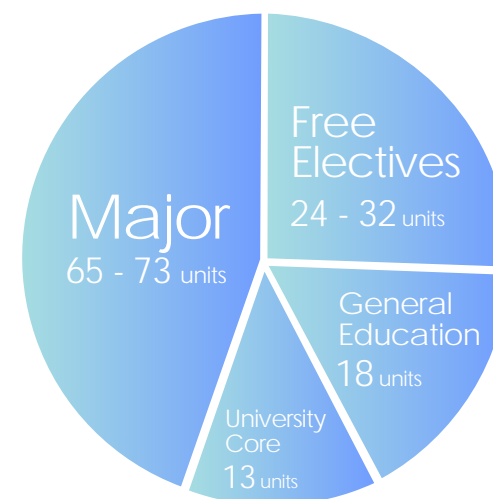


## PHYSICS

### 7 Green Energy and Smart Technology

Integrated study in Green Energy and Smart Technology that prepares students for the rapidly expanding sector of smart and net-zero carbon city development, e.g., renewable energy; smart devices and IoT; green/smart building design and management; smart transportation; carbon audit, energy audit and consulting; and energy conservation.

Diverse career opportunities, e.g., in high-tech companies, consulting firms, energy/utility companies, property/management companies, and the government.



## JS2510 CURRICULUM

Total: 128 units<sup>#</sup>

<sup>#</sup> Total unit requirement of BSc (Hons) in Bioresource and Agricultural Science is 129 units with an additional unit on summer internship.



## JS2510 ADMISSION SCHOLARSHIPS

### FOR SCIENCE STUDENTS

- (1) Science Entrance Scholarship
- (2) Student Residence Scholarship Scheme
- (3) International Merit Scholarship



## 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 by experienced industrial professionals 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)

## STUDENT LIFE



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



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



**Nature exploration** trips were held in **Sabah, Malaysia** and **Sri Lanka** for Biology students.



Chemistry students applied their forensic analysis knowledge and skills for crime scene investigation and re-construction under the setting of **Process Drama**.



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



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 them to the needy people in Hong Kong.

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



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



# GLOBAL EXPOSURE - STUDY 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: Kwansei 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**

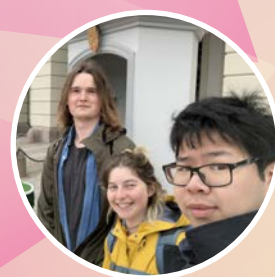
"The experience is awesome and meaningful. I learnt snowboarding and skiing and made many friends. I also travelled to many European countries. I saw northern light in Santa Claus Village and tried Glacier hiking in Iceland."



## 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 OPPORTUNITIES

(Research Opportunities 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

YEUNG Chun Hei (right) **Chemistry, Year 3**

"Through the hands-on training in synthetic chemistry and laboratory management, I become more confident in the laboratory work of my final year project. I am truly grateful for the guidance provided by Professor Long and his research team."



## 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)



## Agriculture, Fisheries and Conservation Department, HKSAR

LIU Kwok Sau, Joey **Bioresource and Agricultural Science, Year 2**

I esteem that my internship experience is rewarding and enjoyable. "Designed to cultivate a flowery path, my agriculture internship has sown the seeds of growth through soil-stained hands."



## Conservation Office, Museum of Arts, HKSAR

TAM Pui Lam **Analytical and Testing Sciences, Year 3**

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



## Hong Kong Observatory, 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
- Amazon Web Services Hong Kong Limited
- Hospital Authority
- JP Morgan
- Ladies' Recreation Club

# OVERSEAS INTERNSHIPS

### Companies / Organisations

- AdvocAid, Singapore
- Department of Mathematics and Computer Sciences, 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 Sciences, University of Perugia, Italy

JIN Tian **Computer Science, Year 3**

"I have gained unforgettable 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 **Statistics and Operations Research, Year 4**  
(front, second left)

"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."



# SCHOLARSHIPS & COMPETITIONS

## 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.



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



KWOK Yan Yi (left)  
Chemistry, Year 3

CHAN Wing Sing (right)  
Applied Biology, Year 3



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



### University of Auckland, New Zealand

CHAN Wing Sing Applied Biology, Year 3

"The scheme not only provided me with an incredible opportunity to step into a wondrous world and explore the sciences that are transforming conservation and ecology, but also connected me with brilliant and enthusiastic minds from various 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  
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)



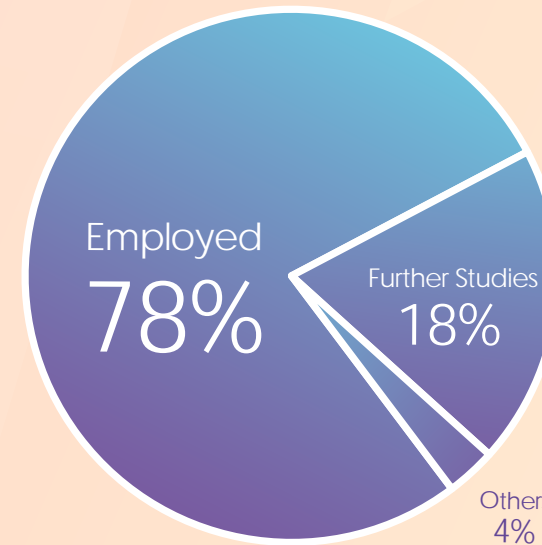
**J.P. Morgan**  
Associate  
WANG Zi  
Computing Studies (Information Systems) (2015)



**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)



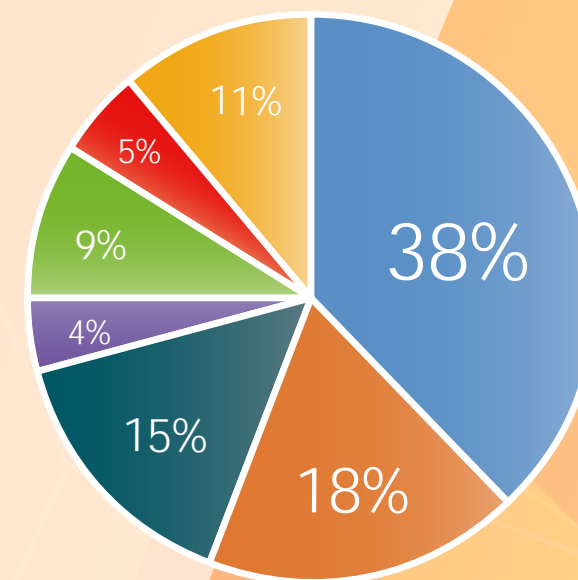
## DEVELOP YOUR CAREER

HKBU Science graduates' employment rate averaged 96% in the past 5 years\*, inclusive of 18% 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 analysing scientific problems using interdisciplinary approach. Therefore they are well-prepared for employment with various nature including the followings but not limited.



- Accounting/Banking/Finance
- Administration/Management
- Creative Media/Communication
- Education
- Professional/Technical services
- Scientific Research
- Others




## CONTACT US


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