

**UGC-Funded  
Undergraduate  
Programmes**

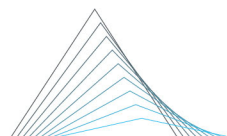
DEPARTMENT OF  
**APPLIED  
MATHEMATICS**



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# Department of Applied Mathematics

As one of the four departments under the Faculty of Applied Science and Textiles, the Department of Applied Mathematics (AMA) is committed to excellent teaching and research in Applied Mathematics. With leading expertise in applied optimization and operations research, applied statistics and financial mathematics, and engineering and computational mathematics, we are well aware of the responsibilities to pass on our knowledge to the next generations, and benefit the society and mankind.

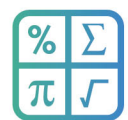
With this mission in mind, we offer a broad range of high quality academic programmes, which are designed to equip students with sound mathematical, analytical and communications skills for different employment niches. The undergraduate and postgraduate programmes administrated by the Department include:



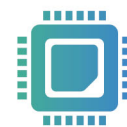
**Bachelor of Science (Honours) in Investment Science and Finance Analytics (63426/JS3806)**



**Bachelor of Science (Honours) in Data Science and Analytics (63425)**



**Minor in Applied Mathematics (63421-YAM)**



**Master of Science in Applied Mathematics for Science and Technology (63022)**  
**Specialisms: Actuarial and Investment Science / Decision Science**



**Master of Science in Operational Research and Risk Analysis (63024)**



**Master of Science in Data Science and Analytics (63027)**





# Bachelor of Science (Honours) in Investment Science and Finance Analytics

The rise of data science brings along new challenges and opportunities to the new generations. High calibre of graduates who possess integrated knowledge in mathematics, business and computer science are in high demand in the financial market. The inexorable escalation in the level of mathematics and technological complexities of financial instruments have been defining the very edge of competitiveness in the industry.

Bachelor of Science (Honours) in Investment Science and Finance Analytics (ISFA) programme is designed to accommodate the emerging market needs. Infusing the computer science elements into the curriculum, this programme provides mathematical and statistical training, with a special emphasis on applications in investment and finance analytics. The education supports students to develop quantitative analysis, data analytics, critical thinking and communication skills, which are valuable qualities for pursuing a wide array of careers in the financial sector.

## General Programme Information

Programme code	63426	63426–SY (Senior Year)
JUPAS code	JS3806	-
Mode of study	Full-time	
Normal duration	4 years	2 years
Intake quota for local students	19	13
Credits required for graduation	At least 123 credits	At least 70 credits (depends on students' qualifications)
	(plus 2 training credits)	

## Compulsory Subjects (46 credits)<sup>#</sup>

### Statistics

Applied Linear Models for Finance Analytics  
High Dimensional Data Analysis  
Statistics for Finance Analytics  
Statistical Inference

### Mathematics

Further Mathematical Methods for Finance  
Mathematical Methods for Finance  
Operations Research Methods

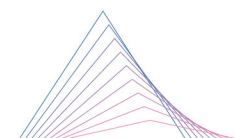
### Finance

Accounting for Decision Making  
Business Finance  
Corporate Finance  
Introduction to Economics  
Theory of Interest and Portfolio Analysis

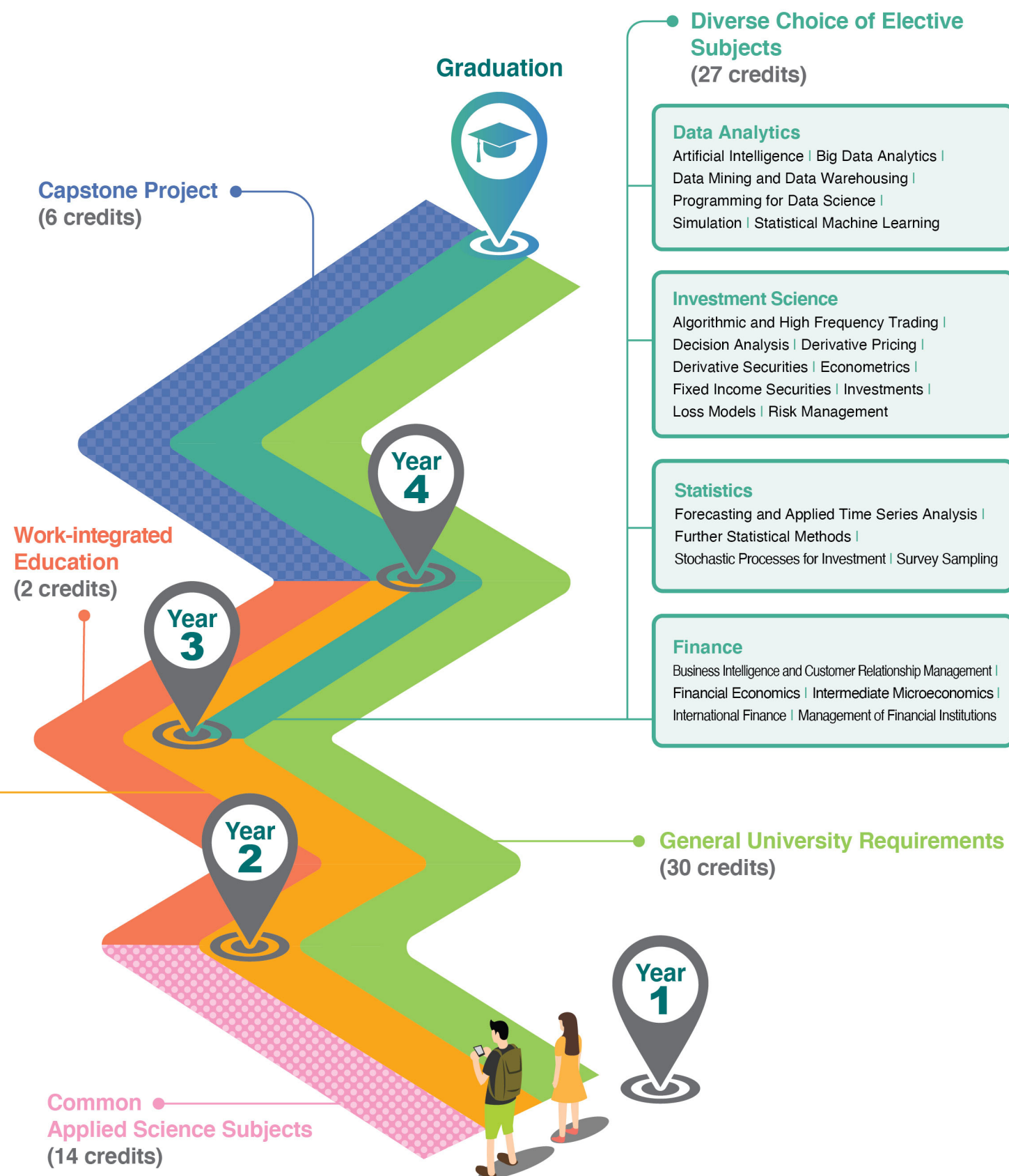
### Computer Science

Database System  
Principles of Programming

<sup>#</sup> Including two language subjects.

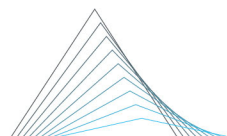


# Study Pattern

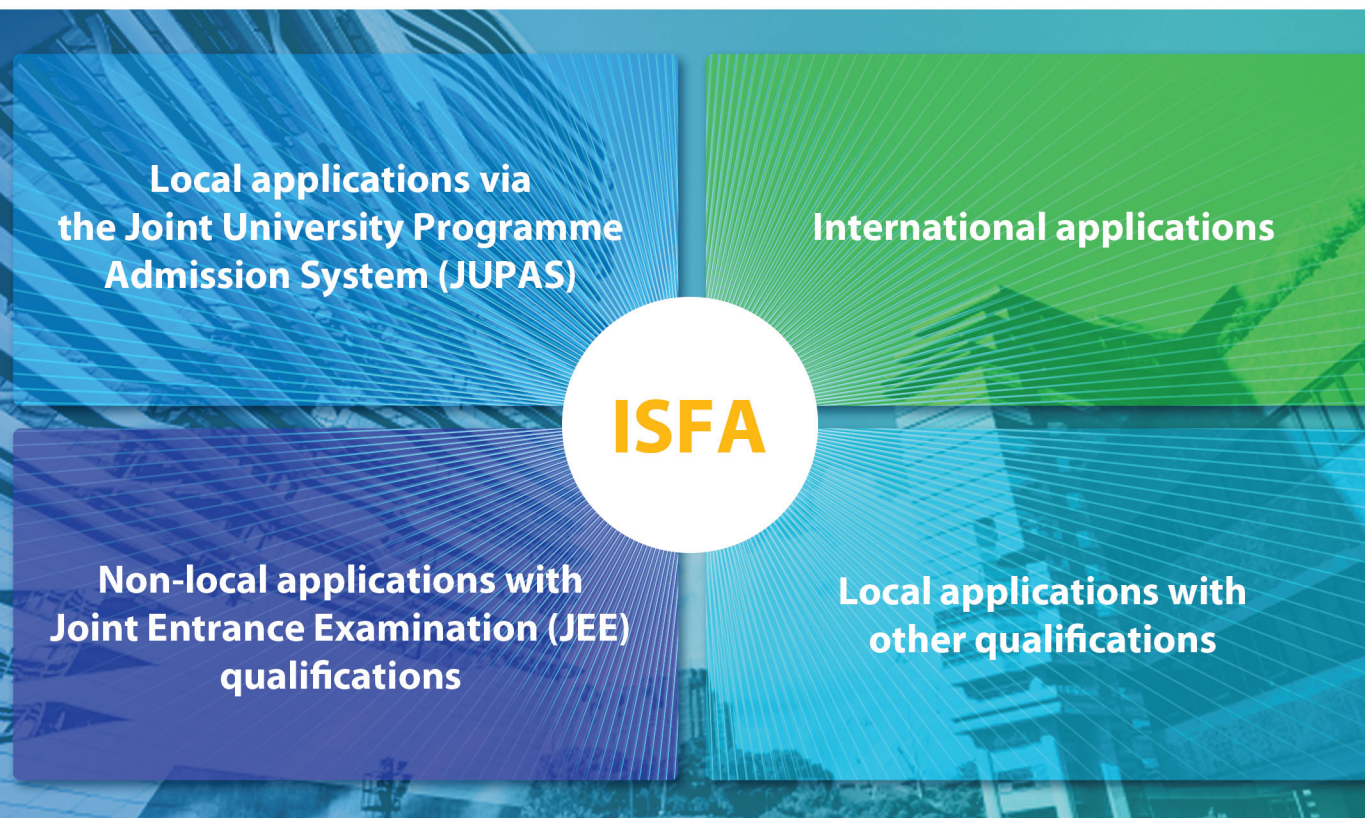


\* Depending on an individual's qualification, the study pattern for 2-year senior year programme may vary from case to case.





# Entrance Requirements



## Admission to the 4-year Programme

For JUPAS applicants with Hong Kong Diploma of Secondary Education (HKDSE) qualifications, they must satisfy the General Entrance Requirements of PolyU:

### Level 3

English  
Chinese  
2 elective subjects  
(incl. M1/M2)

### Level 2

Mathematics  
Liberal studies

For non-JUPAS and non-local applicants, the University will consider other qualifications as being equivalent to the specified entrance requirements on their individual merits. Please visit our website for details.

## Admission to 2-year Programme (Senior Year Place)

An appropriate Associate Degree (AD) / Higher Diploma (HD) in Mathematics, Statistics, Science, Information Technology, Business or Engineering from a recognised institution. Suitable candidates will be considered for advanced standing entry to the senior year curriculum.

## Interview

The interview aims to test the potential for and interest of applicants in the programme, and their communication skills and general knowledge in finance.

### For HKDSE applicants:

Selected applicants will be invited to attend an interview prior to the announcement of HKDSE results.

### For other applicants:

Selected first choice applicants will be invited to have onsite / online interviews.

## Scholarship

To recognize outstanding students admitted to our full-time undergraduate programmes, the Department offers entrance scholarship for local students with outstanding performance in HKDSE and/ or in their previous AD/ HD studies. Please visit our website for details.

## Professional Recognition

Upon the completion of programme, graduates are expected to receive partial exemption from the professional assessment of:

- Hong Kong Statistical Society
- Royal Statistical Society of UK
- Hong Kong Securities and Investment Institute (HKSI)

Please visit our website for details.

## Enquiry

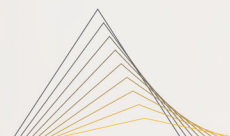
Email: [isfa.info@polyu.edu.hk](mailto:isfa.info@polyu.edu.hk)

Telephone: 2766 6946

Website: [www.polyu.edu.hk/ama/ug/63426](http://www.polyu.edu.hk/ama/ug/63426)







## Excellent Career Prospects

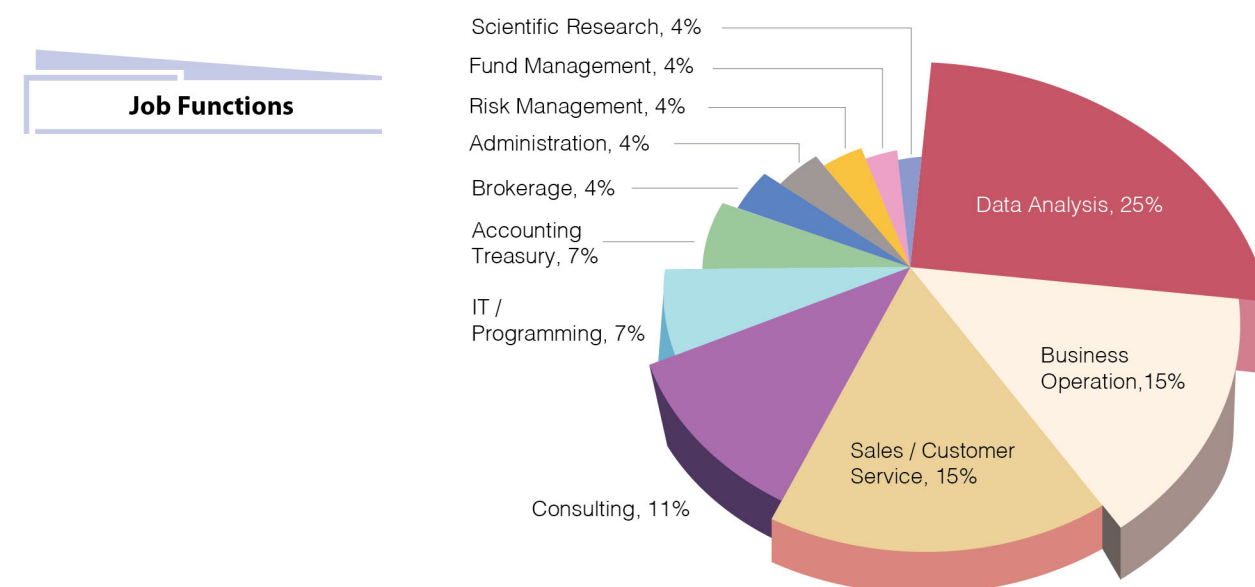
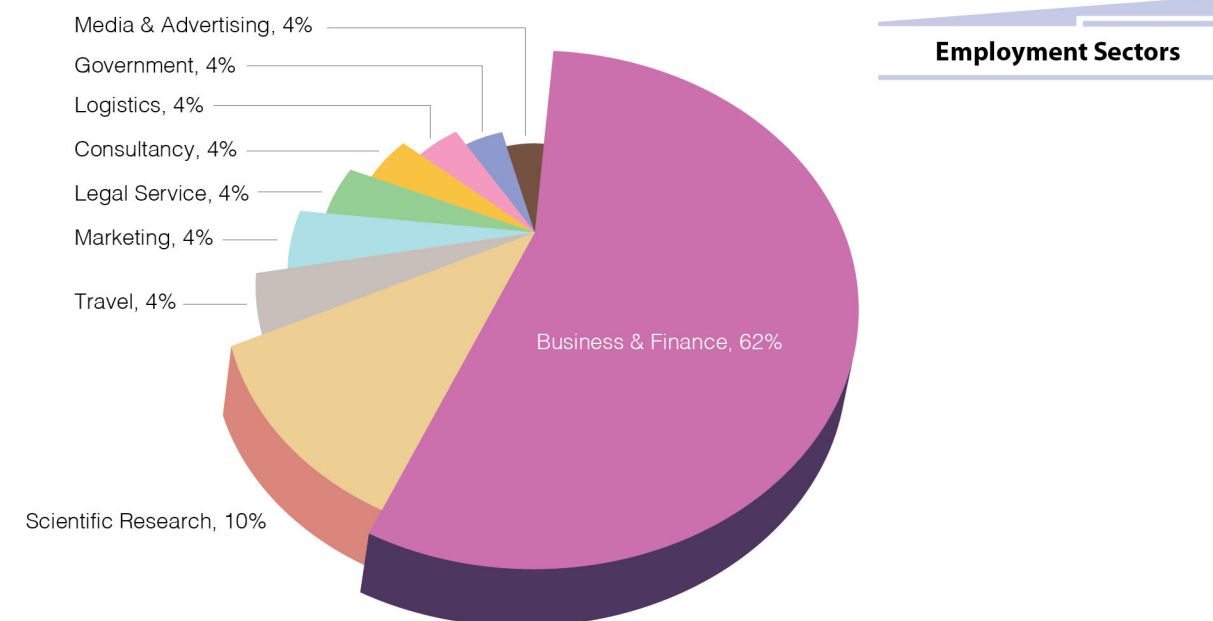
In the past decade, the programme has groomed hundreds of graduates and most of them have found employment in prestigious financial institutions and renowned corporations throughout the Asia Pacific area. They have applied their professional knowledge and developed excellent career path in various industries:

- ✓ Commercial/Investment Banks
- ✓ Securities Institutions
- ✓ Asset Management Companies
- ✓ Regulatory Authorities
- ✓ Trading Platform Providers
- ✓ Insurance Companies
- ✓ Accounting/Auditing Firms
- ✓ Marketing Research Companies

Some of the organizations where our graduates land their dream career :



## Graduate Employment Statistics\*



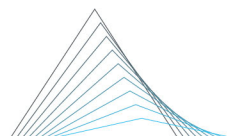
\*Based on the result of Graduate Survey conducted in December 2019.

## Further Study

On the other hand, a number of our graduates pursue further studies in world-class universities:







# Alumni Sharing



**Jenna Ho**  
CitiBank

This programme integrated both mathematical and financial knowledge. It helped me develop not only theoretical knowledge and quantitative skillset, but also practical and interpersonal skills. We were encouraged to explore different statistical tools and software such as SAS, SPSS, R and Minitab, which are widely used in my daily work of validating prices of different bonds and equities now. This programme trained and supported me to establish insight through analyzing data, and equipped me to pursue career in the banking industry.



**Elvis Wong**  
Bank Julius Baer & Co. Ltd.

This Investment Science programme provided me a strong practical foundation for my career development. By joining the learning tour to the mainland China, I gained a chance to visit several financial institutions and enhanced my understanding on the Chinese market. The programme also helped me develop analytics and problem solving skill which would benefit me throughout my life.



**Edward Yeung**  
Elstone Securities Limited

This programme strengthened my quantitative analysis skill, and provided me knowledge of various financial products which are very practical and highly related to my work. The Department equips its computer laboratory with the renowned Bloomberg Terminal System, which is a widely used tool in the financial industry for analysing and trading stocks. Having the chance to practice this system, I gained hands-on experience and gave me an edge in landing career in financial industry.



**Charlotte Ng**  
MPhil student

As a student without solid mathematics background, it's challenging for me to understand the advanced mathematics topics. AMA's teachers are very supportive and patient. They guided me to fill the knowledge gap and develop passion in Mathematics study. In this inspiring and amicable learning environment, I was encouraged to delve deeper into statistics study. Currently, I am pursuing a postgraduate degree to further develop my applied statistics knowledge and hopefully contribute to the research development in the future.



**Vincent Au**  
Research Department,  
Centaline Property Agency Limited

BSc (Hons) in Investment Science was my first choice in JUPAS application. In addition to the statistics theories that I'm highly interested in, this programme also covers knowledge of other areas such as programming, economics and finance, and their applications in solving real-life problems.

Thanks to the opportunities offered by the Department, I have made the most of my 4 years at PolyU. From joining the Departmental Society of Applied Mathematics (上莊), going for an exchange in USA, to taking internship in Beijing, I seized all the chances to equip myself with professional knowledge, expand social circle and develop my interpersonal skill.



**Jocelin Chan**  
Census and Statistics Department,  
HKSAR

I am always interested in Statistics and Mathematics. Therefore, I would like to study in related discipline in university and apply the knowledge and skills to my future career. With these criteria in mind, I found that this Investment Science programme is a perfect match. From the basic theories of Mathematics, Statistics and Finance, to the real world application of the knowledge in Investment and Finance industries, I'm equipped with knowledge and skillsets that supported me to secure various internship opportunities in finance, statistics and market research industries. I met people from different industries which helped broaden my horizon. My analytical, organizational and communication skills are cultivated as well. This programme has well prepared me to develop a prospective and wonderful future.



**Coulson Li**  
Postgraduate student of ETH Zurich

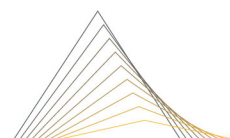
Through programme studies and extra-curricular workshops, I have not only obtained comprehensive knowledge of statistics, mathematics and finance, but also strengthened my technical skills such as programming. I participated in an internship programme in Shanghai and a technical exchange programme in Germany, which exposed me to financial technology. I also gained valuable project experience regarding data mining and machine learning. Thanks to PolyU and the Department of Applied Mathematics, I have explored many possibilities, which will benefit my future career development.



**Jiayang Huang**

AMA is like a warm family to me. It provides support to me for academic learning and invaluable opportunities for career development. The Investment Science programme equipped me with a solid foundation in both statistics and finance, and gave me numerous opportunities to apply our knowledge. I greatly appreciate these opportunities, and I particularly enjoyed the projects on derivatives pricing and the construction of hedge funds. These projects are not only enjoyable, but also gave me an edge in the workplace. Indeed, the Department does a lot to facilitate students' career development. For example, it held regular career talks and practical workshops. I benefited immensely from attending workshop for advanced training in Excel and various career talks.



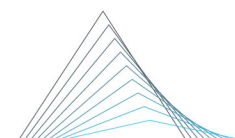


# Bachelor of Science (Honours) in Data Science and Analytics

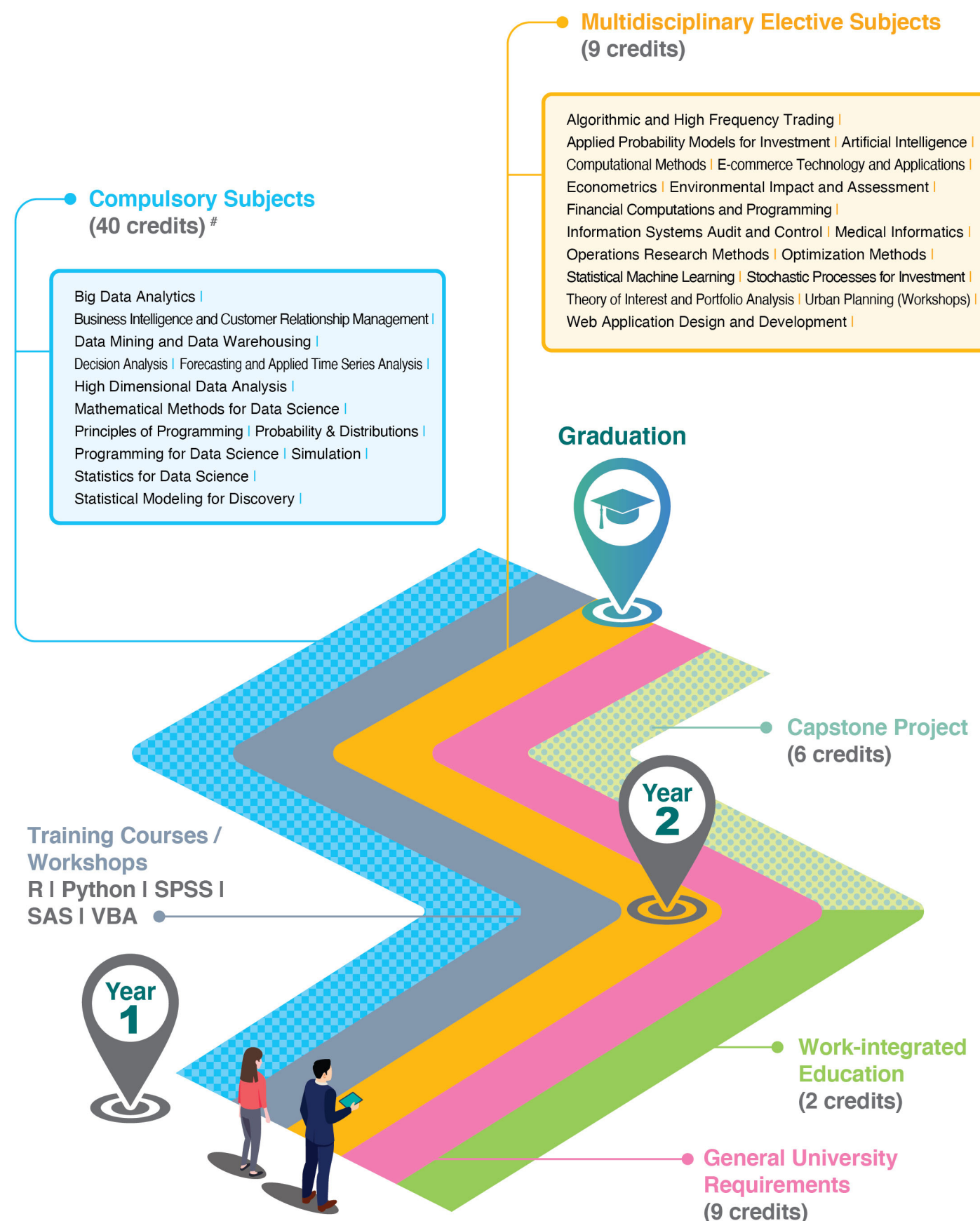
To fill the emerging demand for data expertise and groom professionals of this field, AMA launches Bachelor of Science (Honours) in Data Science and Analytics in 2017. It aims to endow students with knowledge and skills that cut across core disciplines of mathematics, statistics and computer science. From data to information, information to knowledge, and knowledge to decision making, this programme focuses on the study of analytical skills based on the three core disciplines and their applications on the management, analysis of data, as well as the discovery of lawfulness from very large data systems. Graduates with analytical skills, critical thinking, problem-solving and communication skills will be able to pursue careers as data analysts in a broad range of industries e.g. finance, urban planning and pharmacy.

## General Programme Information

Programme code	63425
Mode of study	Full-time
Normal duration	2 years
Intake quota	25
Credits required for graduation	Normally 64 credits (depends on students' qualifications) plus 2 training credits

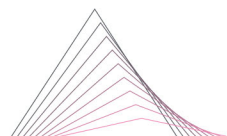


## Study Pattern



# Including two language subjects.





## Entrance Requirements

An appropriate Associate Degree (AD) / Higher Diploma (HD) in Data Science, IT, Statistics, Engineering or Science from a recognized institution.

### Interview

Suitable applicants will be invited to interview, which aims to evaluate their potential for and interest in the programme, and to test their communication skills and general knowledge relevant to the programme.

### Scholarship

To recognize outstanding students admitted to our full-time undergraduate programmes, the Department offers entrance scholarship for local students with outstanding performance in their previous AD/ HD studies. Please visit our website for details.

### Professional Recognition

Upon the completion of programme, graduates are expected to receive partial exemption from the professional assessment of:

- Hong Kong Statistical Society
- Royal Statistical Society of UK

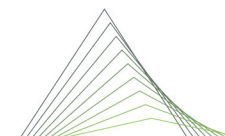
Please visit our website for details.

### Enquiry

Email: [dsa.info@polyu.edu.hk](mailto:dsa.info@polyu.edu.hk)

Telephone: 2766 6948

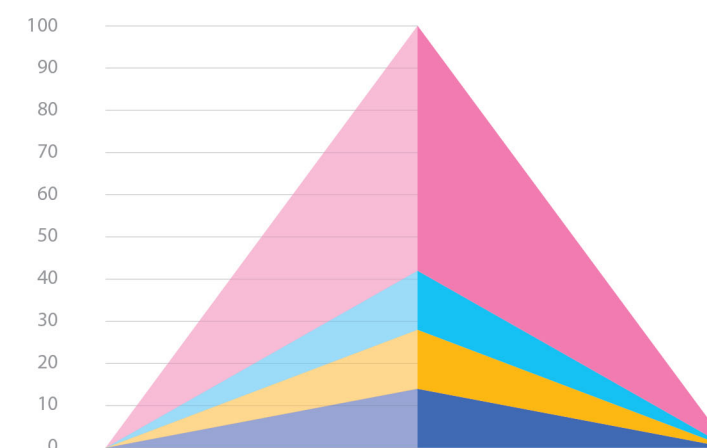
Website: [www.polyu.edu.hk/ama/ug/63425](http://www.polyu.edu.hk/ama/ug/63425)



## Exciting Career Paths

This programme is designed to train students with critical and innovative thinking skills associated with problem solving and decision making, aiming to help them solve emerging problems in different domains of application. Our first cohort graduated in 2019. They pursue career in various industries, Information Technology related in particular, and perform programming, database management, software engineering and statistical/data analysis function.

### Graduate Employment Statistics \*



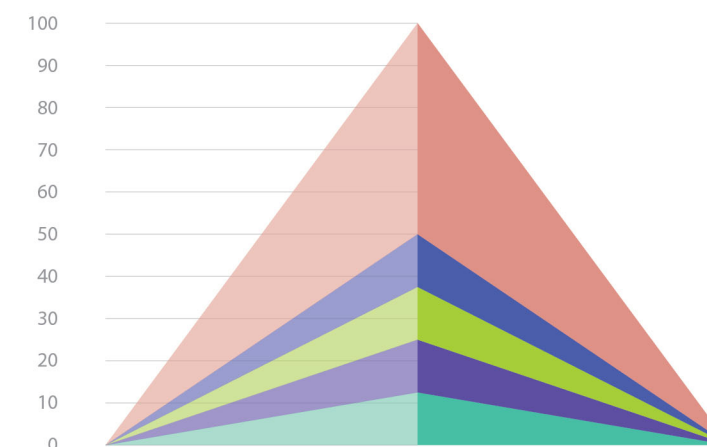
#### Employment Sectors

Information Technology, 58%

Scientific Research, 14%

Education, 14%

Public Utilities, 14%



#### Job Functions

IT/ Programming, 50%

Software Engineering, 12.5%

Database Management, 12.5%

Scientific/ Market Research, 12.5%

Statistical/ Data Analysis, 12.5%

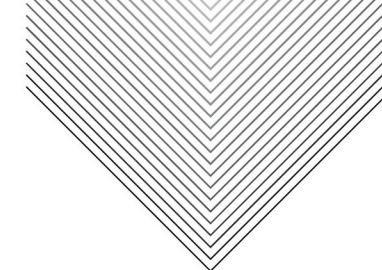
*\*Based on the result of Graduate Survey conducted in December 2019.*





# Internship (Work-integrated Education)

Upholding the motto “To Learn and to Apply, for the Benefit of Mankind”, PolyU places great importance on practical training and connecting classroom theory with workplace application. In light of this, all PolyU’s undergraduate programmes include a mandatory Work-Integrated Education (WIE) component. Students are expected to take internship that are related to their academic studies e.g. investment, finance, data analysis, programming, etc., preferably during summer break for at least 120 hours. Through the internship, students would gain hands-on working experience and receive on-the-job training which will enhance their professional competence, the ability of independent thinking, effective communication skills and develop a global outlook.



**Steven Tang**  
Research Intern at University of  
Oldenburg, Germany



**True Yip**  
Intern at RockTape,  
Russia



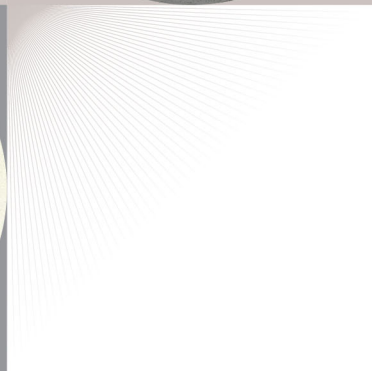
**Janice Chan**  
Intern at Hang Seng Bank



**Alex Wong**  
Sport Statistics Scientist and  
Marketing Intern at NBN23,  
Spain



**Li Cheuk Shing**  
Intern at PCCW Limited

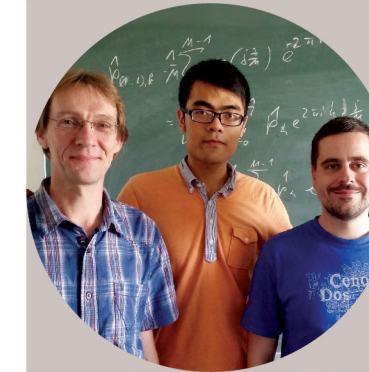


**Qiwen Huang**  
Research Intern at Cracow  
University of Technology,  
Poland

**Evan Zhuang**  
Intern at Bean Partners,  
United Kingdom

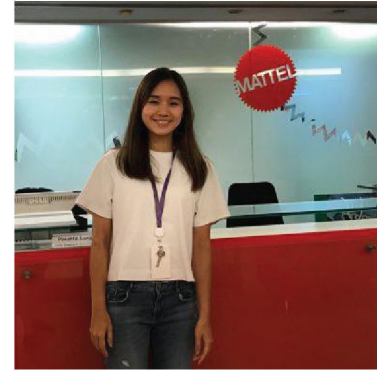


**Coulson Li**  
Trainee at TU Chemnitz,  
Germany

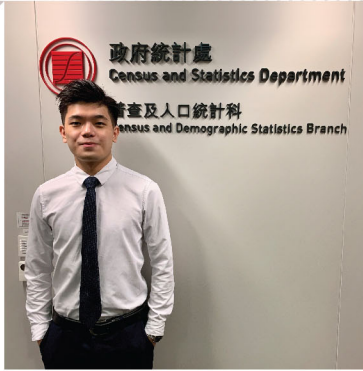


**Jarmin Wong**  
Intern at Aristo Market Research  
& Consulting Co. Ltd.

**Sylar Tsui**  
Data Analyst Intern at  
Burger King, Russia



**Angel Chan**  
Intern at Mattel Asia  
Pacific Sourcing  
Limited



**Edmond Lam**  
Intern at Census and  
Statistics Department,  
HKSAR

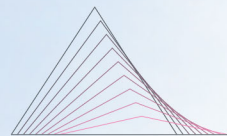


**Tommy Chung**  
Summer intern at Albatroz  
Engineering, Portugal



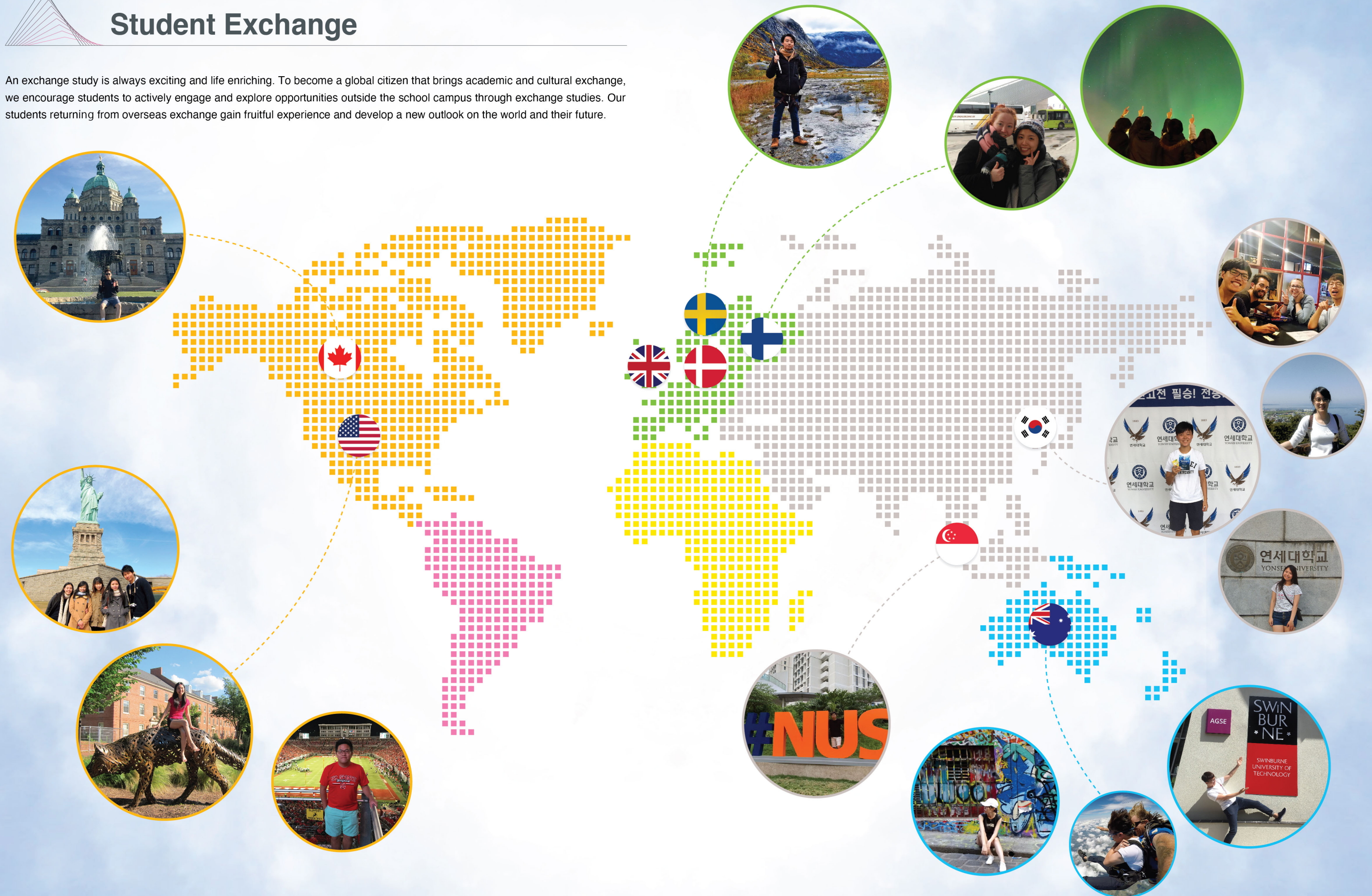
**Larry Ng**  
Summer intern at Centre for  
Health protection, Department  
of Health



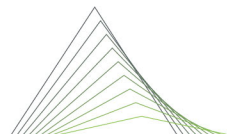


# Student Exchange

An exchange study is always exciting and life enriching. To become a global citizen that brings academic and cultural exchange, we encourage students to actively engage and explore opportunities outside the school campus through exchange studies. Our students returning from overseas exchange gain fruitful experience and develop a new outlook on the world and their future.







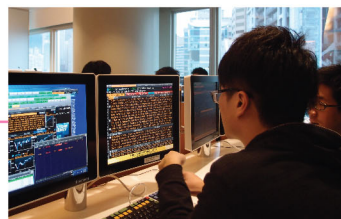
# Beyond Classroom Activities

To facilitate students' learning and enhance their all-round development, the Department organizes various activities beyond classroom:

## Mentorship Scheme



## Bloomberg Terminal Training



## Business Dining Etiquette Training




## Career Training and Talks

## Student Learning Tours






## Contact Information

 Room TU732, 7/F., Core T, Yip Kit Chuen Building  
The Hong Kong Polytechnic University  
Hung Hom, Kowloon, Hong Kong

 (852) 2766 6946

 [www.polyu.edu.hk/ama](http://www.polyu.edu.hk/ama)

