



香港中文大學統計與數據科學系

Department of
Statistics and Data Science

THE CHINESE UNIVERSITY OF HONG KONG

統計與數據科學系

Department of Statistics and Data Science



DEPARTMENT OF STATISTICS AND DATA SCIENCE

OUR PLEDGE

The Department of Statistics at The Chinese University of Hong Kong was founded in 1982 and has further renamed to Department of Statistics and Data Science since August 2025. Our primary mission is to provide a quality education and undertake cutting-edge research. In today's Information Age, statistics has become an indispensable tool in business, social studies, engineering, medicine, clinical studies, genetics and marketing. To meet the increasing demand for well-rounded statistics graduates, we offer undergraduate programmes in Statistics and Risk Management Science. We also offer postgraduate programmes leading to MPhil and PhD degrees to students who intend to become experts in the field.

Details of the Risk Management Science Programme are presented in a separate leaflet.

UNDERGRADUATE PROGRAMME IN STATISTICS

The curriculum of the Statistics Programme is specially designed to prepare students for careers in fields such as business, teaching and research. The curriculum covers the core of the subject and maintains a balance between theory and practice. Students can choose to specialise in either the Data Science and Business Statistics Stream, the Statistical Learning and Data Mining Stream, or the Data Analytics Stream.

The Data Analytics Stream was newly introduced in 2016. The curriculum includes interdisciplinary subjects covering the fields of Statistics, Mathematics and Computer Science. The objective of the stream is to meet the increasing need for skilled data analysts to turn massive data into usable information for decision making and prediction.

	Data Science and Business Statistics Stream	Statistical Learning and Data Mining Stream	Data Analytics Stream
Required Courses			
1 st Year	<ul style="list-style-type: none">• Introduction to Statistics OR Statistics for Life Sciences• Data Science Toolbox• University Mathematics OR University Mathematics for Applications• Any One Course from Groups A/B/D in the Science Faculty Package		<ul style="list-style-type: none">• Introduction to Computing Using C++ OR Introduction to Computing Using Java OR Computer Principles and C++ Programming OR Computer Principles and JAVA Programming OR Computer Principles and Python Programming
2 nd Year	<ul style="list-style-type: none">• Basic Concepts in Statistics and Probability I• Basic Concepts in Statistics and Probability II• Linear Algebra OR Methods of Matrices and Linear Algebra	<ul style="list-style-type: none">• Programming Languages for Statistics• Workshop on Data Exploration and Technical Writing	<ul style="list-style-type: none">• Introduction to Data Science
3 rd Year	<ul style="list-style-type: none">• Applied Regression Analysis	<ul style="list-style-type: none">• Workshop on Data Analysis and Statistical Computing	<ul style="list-style-type: none">• Statistical Inference
4 th Year	<ul style="list-style-type: none">• Foundation of Financial and Managerial Statistics	<ul style="list-style-type: none">• Statistical Inference	
Elective Courses	<ul style="list-style-type: none">• Statistics Projects OR Practicum		
	8 courses from a list of courses in RMSC and STAT, 1 capstone course from STAT	7 courses from a list of courses in RMSC and STAT, 1 capstone course from STAT	8 courses from a list of courses in CSCI, ENGG, RMSC and STAT, 1 capstone course from STAT
Major Units	63	63	69

Examples of Elective Courses from Statistics (STAT):

- Survey Methods
- Recommender Systems
- Nonparametric Statistics
- Statistical Computing
- Applied Multivariate Analysis
- Statistical Principles of Deep Learning with Business Application
- Introduction to Stochastic Processes
- Data Mining and Statistical Learning
- Statistical Techniques in Life Sciences
- Actuarial Science
- Time Series
- Categorical Data Analysis
- Bayesian Learning
- Survival Modelling
- Optimization for Statistics and Data Science

Examples of Elective Courses from Risk Management Science (RMSC):

- Simulation Methods for Risk Management Science and Finance
- Financial Data Analytics with Machine Learning
- Statistical Modelling in Financial Markets
- Theory of Risk and Insurance
- Stochastic Calculus for Finance and Risk
- Operational Risk Management

CAREER PROSPECTS

Although some of our graduates continue their studies and pursue a higher degree, most join the workforce after graduation. The career development of our graduates shows that they are well-received in various sectors of the community. Many now hold key positions in the civil service and in private sector fields such as business, finance and banking, and research and marketing.



Employment of Our Graduates



INTERNSHIPS

The internship programme reflects our continued efforts to enhance our students' career prospects. The main objective is to provide participating undergraduate students with opportunities to engage in research activities at both academic and non-academic institutions and to equip them with additional professional and statistical expertise. The Department seeks out available intern positions at both government and private institutions.

LEE, Ching Man Jenny

(Summer intern at the Census and Statistics Department, The Government of HKSAR)

During the summer of 2024, I served as a summer intern at the Census and Statistics Department, where I gained hands-on experience in applying statistical methodologies to real-world data analysis. My primary responsibility involved conducting comprehensive desktop research, during which I leveraged my Python programming skills to develop an automated data-scraping tool. This innovation streamlined repetitive tasks, reducing processing time and facility the overall workflow.

Additionally, regular review sessions with my supervisor allowed me to exchange ideas with professionals. These discussions not only refined my analytical thinking but also exposed me to industry best practices and collaborative problem-solving. The internship solidified my passion for data-driven solutions and equipped me with practical skills that I am eager to apply in my future career.

YEUNG, CHING HIN

(Summer Intern at the Census and Statistics Department, The Government of HKSAR)

Participating in a departmental internship presents a valuable opportunity for me to acquire hands-on research experience while still attending school. This type of internship offers numerous benefits, including the chance to apply classroom knowledge to real-world scenarios, enhance technical abilities, and broaden my horizons in the research fields.

As an example, the Census and Statistics Department may offer a potential internship opportunity for students during the summer of 2023. This role could entail providing support in various areas such as consumer price indices, trade statistics, and demographic statistics, among others.

EXCHANGE PROGRAMMES

Well recognised as valuable learning opportunities, exchange programmes are popular among statistics students. Every year many of them participate in student exchanges.

FONG Chun Hei

Last semester, I got a valuable chance to exchange to American University. It is such a great university with abundant resources and full of nice and decent people. The US is a multi-racial country with diverse opinions and values. Different states of the US got their own charisma. You will be charmed by Mexican-liked states like Florida. You will be attracted by the metropolitan cities like New York City. The historic capital Washington DC is a must visit. A slow pace of living is the biggest difference between Hong Kong and the US. Trust me, everyone will be in love with such a great country.

LAM Chui Pik

I studied at Nanyang Technological University through the OAL exchange programme. The most important thing I have learnt is to integrate myself into a new environment as quickly as possible. It seems to me that the biggest difference between Singapore and Hong Kong is the culture. Singapore is a multi-racial country that is accepting of different customs, beliefs and cultures. During this journey, I met people from various backgrounds and heard their unique stories. This has broadened my horizons and opened my mind. I have also taken some major courses in Singapore to compare different teaching methods and materials in CUHK and NTU, which has given me a deeper understanding of my major.

ALUMNI

Several alumni are happy to share their experiences as CUHK Statistics graduates.

LAU Ho Cheung (BSc in Statistics, 2024; MSc. in Advanced Studies in Statistics and Data Science, 2025)

Secondary School Teacher

I am studying in Master of Science in Statistics. During my study of Bachelor programme, I gained a deep understanding of statistical methods and techniques, from probability theory and regression analysis to experimental design and statistical inference. The programme offered me challenges. I was required to think critically, solve problem, and communicate complex information effectively. Besides, statistics is an important field, the analytical and quantitative skills in statistics can be applied to industries ranging from data analysis and finance to marketing and technology.

KAN, Chun Yu Matthew (BSc in Statistics, 2025)

Pursuing a postgraduate program

In contemporary society, we are surrounded by massive amounts of data every day. Countless useful messages are hidden within this wealth of information, and statistical analysis empowers us to develop a deeper grasp of these varied datasets and reveal their characteristics. From probability theory and survey sampling to computational statistics and statistical inference, the CUHK statistics programme furnishes broad and deep statistical knowledge, striking an optimal balance between theoretical depth and practical application by offering numerous capstone projects and internship opportunities for students. Whether you are interested in exploring potential market characteristics or pursuing practical science with abundant professional prospects, this programme is essential for you and will undoubtedly benefit your future.



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