



SCHOOL OF  
**COMPUTING &  
DATA SCIENCE**  
The University of Hong Kong

6779 Statistical Decision Sciences

Bachelor of Science in

**Decision Analytics**

BSc(DA)

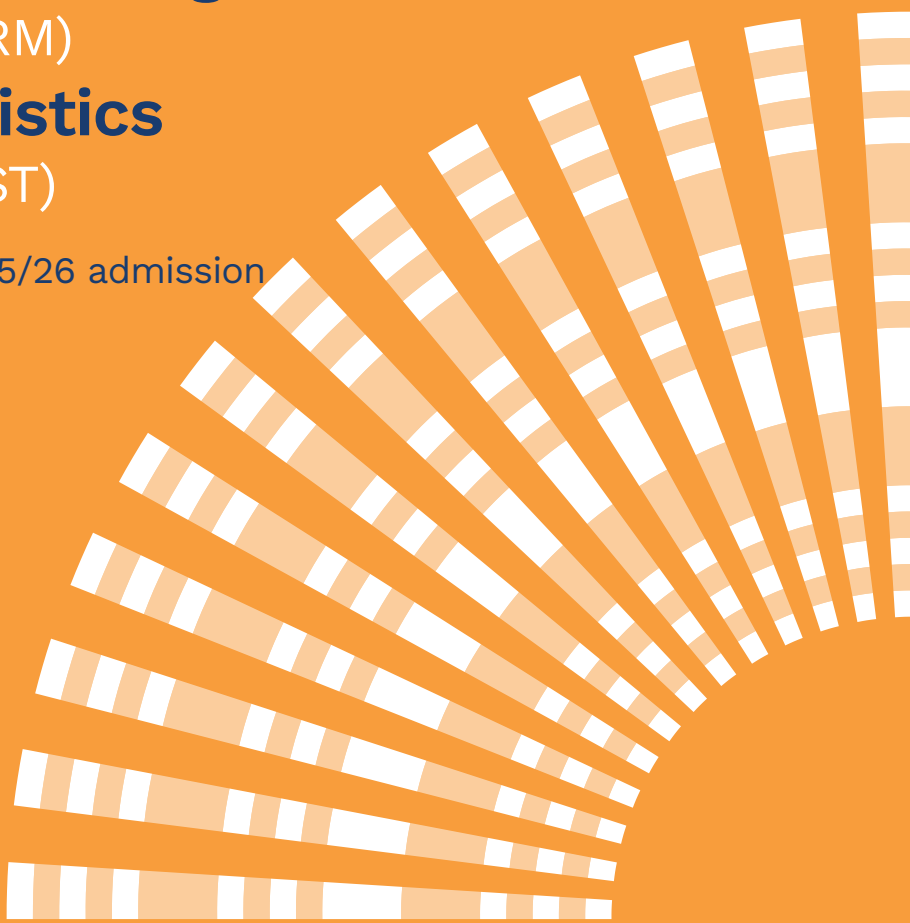
**Risk Management**

BSc(RM)

**Statistics**

BSc(ST)

For 2025/26 admission



## Section 1

# Programme highlights and key features

Humans form opinions and make decisions every day, often amid a world of uncertainties. Statistical Decision Sciences (programme code: 6779) provide a scientific framework and reasoning toolkit for humans to make sense of real-life observations, whether in the form of small or big data, in their endeavour to live and think wise. It aims to provide comprehensive training to students in the area of quantitative analysis and statistical modelling, with an emphasis on both theory and practice, equipping students to master problem solving skills and data science techniques.

6779 Statistical Decision Sciences offers the choices of three professional degree programmes, namely: (1) Bachelor of Science in Decision Analytics [BSc(DA)], (2) Bachelor of Science in Risk Management [BSc(RM)], and (3) Bachelor of Science in Statistics [BSc(ST)]. Students admitted to 6779 Statistical Decision Sciences are free to choose (i.e., no quota limit applies) one of the aforesaid programmes. Students shall make a preliminary choice as an indication of their preferences; and they may freely choose the final programme by the end of their first year.

## Professional Recognition



HKU has been awarded the status of an Accredited University by the Royal Statistical Society (RSS) since December 2023. The RSS accreditation provides reassurance that the teaching, learning and assessment within the accredited programmes is of high quality and meets the needs of students and employers.

Graduates from either of the three programmes, Decision Analytics (DA)\*, Risk Management (RM)\* and Statistics (ST) are qualified to become a Graduate Statistician (GradStat) designated by RSS. Upon passing certain courses, students are also deemed to have met the academic requirements of the RSS Data Analyst award.

In addition, the School will be applying for Professional Risk Managers' International Association (PRMIA) accreditation to further strengthen the programme's comprehensiveness and competitiveness, allowing our graduates to get exemptions from the PRM exams.

\*Students are required to pass specific courses in the programme.

## **Bachelor of Science in Decision Analytics BSc(DA)**

The Bachelor of Science in Decision Analytics programme aims to equip students with the skills and expertise in leveraging and managing big data in real time. With an emphasis on statistically guided AI techniques, it provides students with solid training in making digitised information a strategic part of critical decision-making and resource allocation at high levels of clarity and accuracy. Built upon a synergy between data science and statistical reasoning, the programme strives to enrich artificial intelligence with a strong touch of human intelligence.

Decision Analytics students are trained with both rigorous statistical concepts and computational skills in data analytics. They are educated with problem-solving skills to provide optimized solutions to real life problems with big data.

## **Bachelor of Science in Risk Management BSc(RM)**

The Bachelor of Science in Risk Management programme aims to provide students with the skills and expertise in the theory and methodology behind the scientific process of risk management, with application to quantitative modelling, financial risk analysis, statistics and other related areas of interest. It is designed to provide solid training in the concepts of the risk management process, statistical models and methods of risk management, and good risk management practice.

Risk Management students are well equipped with quantitative analytical skills in statistical modelling and modern exposure in risk analysis. The curriculum is closely related to the content of various professional qualifications in investment, finance and risk management, allowing students to better prepare for these credentials before their graduation.

## **Bachelor of Science in Statistics BSc(ST)**

The Bachelor of Science in Statistics programme focuses on the study of statistics, a scientific discipline characterised by the development and applications of analytical and quantitative tools which involve logical thinking, problem formulation, probability reasoning and intensive data analyses. The programme aims to equip students with powerful mathematical, analytical and computational skills, which are in great demand in practical areas where data are obtained for the purpose of extracting information in support of decision making. It gives students a strong background in statistical concepts and provides broad and solid training in applied statistical methodologies.

Statistics students with strong theoretical background in statistical analysis and research potential are ready to apply quantitative skills in diverse areas like medical study, social sciences, economics and others.

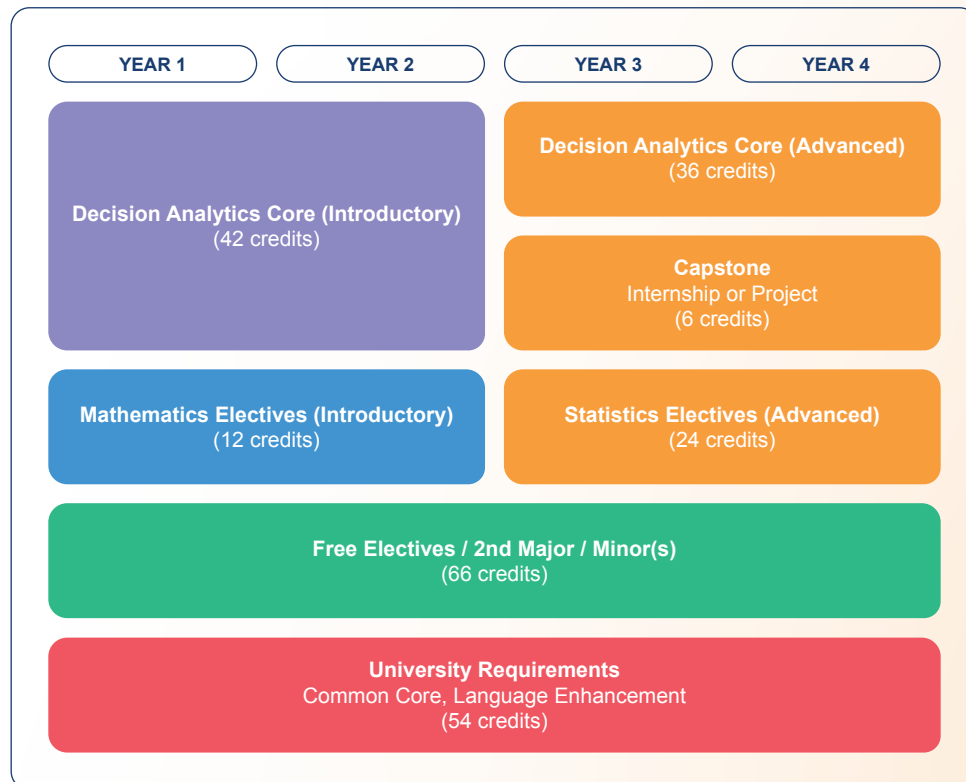
Professionals from institutions and organisations including the Census and Statistics Department, Hospital Authority, various financial and education institutions are the prestigious alumni of our Statistics programme.

## Section 2

# Curriculum structure

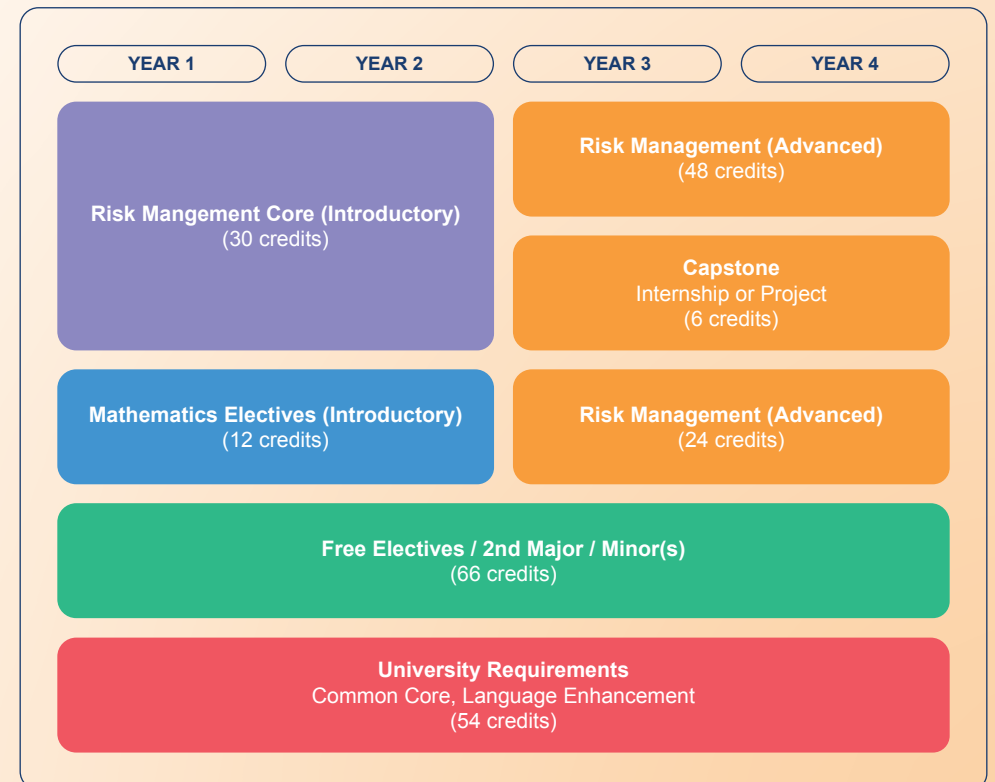
### Bachelor of Science in Decision Analytics BSc(DA)

Core courses in the Decision Analytics curriculum emphasise the fundamental concepts and methodologies of decision analytics which include but not limited to statistical analysis, machine learning, data visualisation, programming, data structuring, mathematical and statistical modelling, and implementation of database systems. Elective courses focus on diverse and applied techniques of decision analytics in multidisciplinary fields.



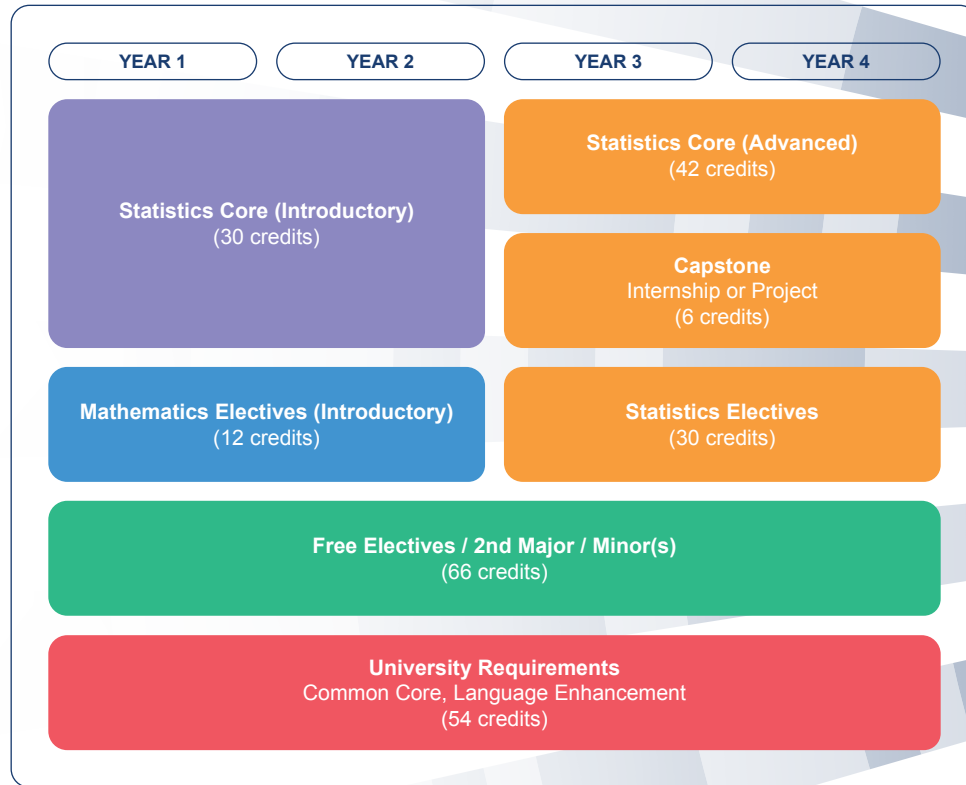
### Bachelor of Science in Risk Management BSc(RM)

Core courses in the Risk Management curriculum emphasise fundamental concepts and nature of risk assessment, risk management and governance from different standpoints, while elective courses provide either training in specific Risk Management disciplines or an extension of knowledge, aiming to give students more modelling, technical and analytical skills in risk management, including credit and market risk analysis, data mining, stochastic calculus, and financial time series modelling.



## Bachelor of Science in Statistics BSc(ST)

The Statistics curriculum is constantly revised to meet a steadily rising demand for specialist statisticians or quantitative analysts in government, business, finance, industry, as well as in research and teaching in local and overseas institutions.



Students will first build up a solid mathematical foundation in junior years of study, followed by rigorous training in statistical knowledge and skills in both theoretical and practical aspects. There is a diversity of advanced elective courses for students to choose from to further study specific branches of statistics, such as statistical inference, probability modelling, stochastic processes, survey sampling methods, survival analysis, time-series modelling and Bayesian learning.



## Section 3

# Entrance requirements and admission formula

## Entrance requirements

### JUPAS route:

Programme	English Language	Chinese Language	Mathematics	Citizenship and Social Development	Elective Subject: Category A subjects and Extended Module 1 or 2 in Mathematics (M1/M2)
6779 Statistical Decision Sciences	3	3	4	Attained	Level 3 in 2 subjects

### Non-JUPAS route:

Applicants with other local/international/national qualifications (e.g., IB, GCE-AL, SAT/AP, NJCEE) will be considered on an individual merit basis. More details are available from the programme website at [cds.hku.hk/prospective-students/undergraduate](https://cds.hku.hk/prospective-students/undergraduate)



## Admission formula

1.5 x Math + Best 4 Subjects\*

\* May include M1/M2



## Section 4

# Scholarships

### **Dr Patrick S C Poon Scholarship in Statistics**

In 2012, Dr Patrick S C Poon made a generous pledge to the University to establish four scholarships in support of outstanding undergraduates who wish to pursue studies in Decision Analytics, Risk Management or Statistics. The scholarships will be awarded annually on the basis of academic merit to final-year candidates pursuing a first major in Decision Analytics, Risk Management or Statistics. Each scholarship is valued at HK\$50,000, and is awarded on a non-renewable basis.

### **Ho Kam Chiu Lo Lai Ching Memorial Scholarship**

In 2021, Mr SK Ho (BSocSc 1980; MSocSc 1987) pledged a generous donation to establish a Scholarship in honour of his parents. The Scholarship shall support students at the Department of Statistics and Actuarial Science to engage in overseas enrichment programmes or exchange studies. Three scholarships, each of the value of HK\$20,000, shall be awarded annually to outstanding students in the Bachelor of Science (Major in Decision Analytics/ Major in Risk Management/ Major in Statistics) programme on the basis of academic merit.

### **Saw Prize in Statistics**

To commemorate his 1969-71 stay at the University and to promote the development of statistics, Professor Saw pledged to establish a prize to be awarded in the form of a gold medal in 1971, which was converted to a cash prize in 2017. One prize of HK\$8,000 shall be awarded annually to a final-year Bachelor of Science student whose first major is Decision Analytics, Risk Management or Statistics, and who has obtained First Class Honours and the highest average marks in the papers taken for Statistics courses.

### **Saw Swee Hock Statistics Scholarship**

In 2005, Professor Saw Swee Hock, founding Professor of Statistics of the University from 1969 to 1971, donated a capital sum of HK\$300,000 to set up a scholarship in recognition of the academic achievement of BSc graduates whose first majors are in the Department of Statistics and Actuarial Science. Two awards of HK\$5,000 each shall be awarded annually on the basis of academic merit.

### **Statistics and Actuarial Science (SAAS) Scholarships**

Twenty-eight scholarships, each worth between HK\$4,000 and HK\$20,000, are made available each academic year by the Department of Statistics and Actuarial Science. The Department awards these scholarships annually on the basis of academic merit to outstanding students in different years of study who are pursuing a BSc degree in Actuarial Science or a first major in Decision Analytics, Risk Management or Statistics.

## YF Life Scholarship in Actuarial Science and Risk Management

In 2023, YF Life Insurance International Limited kindly pledged to establish the YF Life Scholarship in Actuarial Science and Risk Management at the University, with an objective of nurturing talents for the insurance industry. Five scholarships, each of the value of HK\$15,000, shall be awarded annually to outstanding undergraduate students in the Bachelor of Science in Actuarial Science or Bachelor of Science (Major in Risk Management) degrees on the basis of academic merit and performance.

For more details about the scholarships, please visit:  
[saasweb.hku.hk/programme/scholarship.php](https://saasweb.hku.hk/programme/scholarship.php)



For details about all HKU's scholarships, please visit:  
[aas.hku.hk/scholarship-opportunities](https://aas.hku.hk/scholarship-opportunities)





## Section 5

# Career prospects and employment statistics

### Career Prospects

Our graduates readily find employment in various sectors, including but not limited to the government, banking, finance, risk management, insurance, IT, marketing research, healthcare, hospitals, environmental protection, scientific research, academia and other related sectors in which statistical and analytical expertise is needed due to the data-driven environment nowadays. They often play important roles in large-scale, multidisciplinary projects involving data analytics, providing guidance on all aspects of data collection and producing objective findings. Our graduates are also sought after by top graduate schools and research firms worldwide.

Graduates from the Decision Analytics programme can go on a career path as a data scientist or pursue further studies in statistics or computer science. Their career prospects are not limited to the field of data analytics but also cover strategic planning, policy making and others.

Most of our Risk Management graduates will work in the financial industry with further professional qualifications, and end up in senior management positions after gaining years of experiences in risk analysis and training in investment, banking and financial institutions. They may also launch their start-up companies for risk consulting, financial services and related areas.

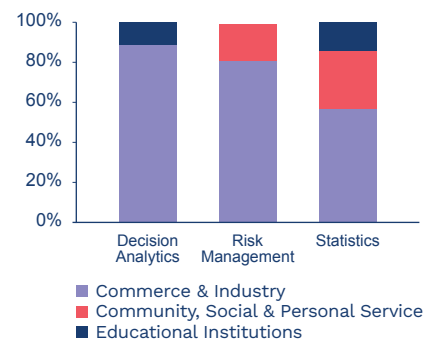
The statistical skills acquired by our Statistics graduates empower them to play a crucial role in many important job positions requiring quantitative mindset and analytical ability. Some of our graduates had worked in government bodies as Statisticians, Research Managers, as well as in the commercial sectors as Statistical Analysts, Marketing Associates, and Associate Officer (Business Intelligence).

### Career Advising Programme (CAP)

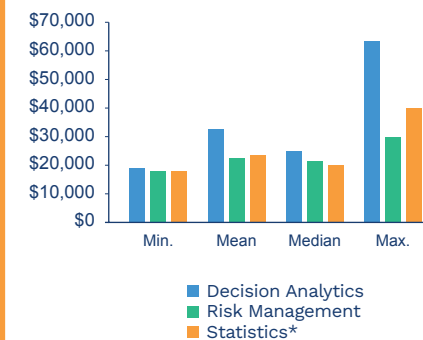
The School has introduced the Career Advising Programme (CAP) to help students pinpoint their strengths and weaknesses in terms of interview/CV writing skills and better prepare students to seize career opportunities readily. Besides one-to-one career consultation, the CAP will organise career-related activities to deepen students' understanding of the industries.

### Employment statistics

#### Employment Sector



#### Basic Salary of 2023 Graduates



\*Data in 2022, as data from 2023 is not available because of low response rate.

## More information

### Computing Facilities

The School currently houses a statistical computer laboratory, which is equipped with up-to-date statistical software for teaching and learning and research purposes.

### Student Society

The Statistics and Actuarial Science Society (SASS) has dedicated itself to promoting the study of actuarial science, decision analytics, risk management, statistics and applied artificial intelligence. It also serves to provide a sense of unity, promote the welfare of its members and maintain a harmonious relationship between staff members and students.

Every year, the SASS organises a variety of functions, including the alumni mentorship scheme, annual dinner, annual survey, firm visits and many more. The SASS works closely with the School and serves its members with enthusiasm. It strives in the best interests of their members and aim to ensure they enjoy a fruitful and joyful university life.

### Alumni Mentorship Scheme

The alumni mentorship scheme provides two-way communication between mentors and mentees. Through regular gatherings and mutual sharing, mentees can learn from their mentors' life experience and, at the same time, better understand the employment situation and their career prospects. In return, mentors receive up-to-date information on the current student population, the Statistics and Actuarial Science Society, the School and the University at large. Mentors also enjoy opportunities to become acquainted with their counterparts working in similar fields.

### HKU Worldwide Undergraduate Student Exchange Programme

At HKU, we aim to equip our students with not only academic excellence, but also the knowledge, skills, and values needed to become influential citizens in today's globalised world. To achieve this goal, we offer a variety of overseas learning opportunities. Studying abroad can be a transformative experience, and we actively encourage our students to take advantage of these programmes.

The HKU Worldwide Undergraduate Student Exchange Programme (HKUWW) provides exchange places from partner institutions (or host institutions) of the University for one or two semester(s). Students are offered exchange opportunities in world-renowned universities such as Harvard University, Columbia University, McGill University, the University of Toronto, the University of California at Berkeley, Davis, Santa Barbara and Los Angeles, the University of Melbourne, the University of British Columbia, the University of New South Wales, the University of Amsterdam, Georgetown University, the University of Waterloo, just to name a few.

For more information about the programme\*, please visit our website:

 [cds.hku.hk/prospective-students/undergraduate](https://cds.hku.hk/prospective-students/undergraduate)



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\*New programme: subject to approval of the University