Since the first graduation in 1989, we expect to have about 1,000 graduates when the present cohort completes the programme.

This programme is designed to provide a rigorous training in the principles and the practice of statistics. It emphasizes in applications and aims to prepare candidates for further study, research, consulting work and administration in various fields through computer-aided and hands-on experience.

The degree of Master of Statistics is a one-year full-time / two-year part-time programme, which has been restructured from the previous degree of Master of Social Sciences in Applied Statistics that was launched in September 1987.

Programme Highlights

- Be a knowledgeable statistician in principles and practice
- Experience hands-on applications of methodologies with powerful statistical software
- Could select four electives from the Department's research postgraduate courses
- Join the programme of more than 30 years in curriculum development and delivery
- Select a theme of your interest (Risk Management / Data Analytics)

Programme Learning Outcomes

1. To acquire advanced knowledge in statistics and practical skills of applying appropriate statistical methods, models and techniques, and develop new knowledge and skills through life-long learning
2. To equip with hands-on experience in statistical and risk analyses using commercial statistical software and be competent for data-analytic jobs which require advanced computational skills
3. To make informed decisions on complex real-life problems encountered in the data explosion era
4. To communicate effectively with the layman on statistical issues
5. To critically evaluate and to make proper use of models and techniques for data analyses and risk management, and to appraise the related ethical issues
6. To prepare to be confident statisticians for providing professional view on statistical issues

Master of Statistics Outstanding Performance Scholarship

One scholarship of HK$50,000 shall be awarded annually to an MStat student on the basis of academic merit and quality of coursework.

Lifelong Learning Prizes in Statistics

There are Lifelong Learning Prizes in Statistics, each from $5,000 to $10,000, awarded to students on the basis of academic achievement.

Entrance Scholarship for the Master of Statistics

There is an Entrance Scholarship for Master of Statistics of HK$20,000, awarded annually to new MStat students on the basis of academic merit, financial need upon admission and, if necessary, interview performance.

Targeted Taught Postgraduate Programmes Fellowships Scheme

Master of Statistics is selected as an eligible programme under the University Grants Committee for Targeted Taught Postgraduate Programmes Fellowships Scheme. Selected local students admitted to MStat (full-time or part-time) in the academic year 2023-24 are eligible to apply (with terms and conditions apply).

Local offer recipients who wish to apply for the Fellowship Scheme should prepare a proposal on how they can contribute to the priority areas (i.e. Business and STEM) of Hong Kong after completing the programme. Successful Fellowship Scheme applicants will each receive an award of HK$120,000.

Reimbursable Course(s) by Continuing Education Fund (CEF)*

持續進修基金
Continuing Education Fund

The following courses have been included in the list of reimbursable courses under the CEF:

- STAT7006 Design and analysis of sample surveys
- STAT8007 Statistical methods in economics and finance
- STAT8017 Data mining techniques
- STAT8019 Marketing analytics

All CEF applicants are required to attend at least 70% of the courses before they are eligible for fee reimbursement.

*The mother programme (Master of Statistics) of these courses is recognised under the Qualifications Framework (QF Level 6).

"The COVID-19 pandemic served to accelerate the shift of consumers from physical stores to web-and-app based options. With millions of customers using this products, Statisticians, Mathematicians, and Data Scientists with the know-how to interpret the trends of shoppers are in ever-growing demand."

The 2021 Jobs Rated Report by www.careercast.com

Programme Curriculum

Commencing in September, the curriculum is composed of a total of 60 credits of courses in either one year for full-time study, or two years for part-time study. The programme offers great flexibilities for students who wish to take a general approach or a specialised theme in Risk Management or Data Analytics. A student may choose to have his/her theme printed on the transcript if he/she has satisfied the requirement of one of the themes. If a student selects an MStat course whose contents are similar to a course (or courses) which he/she has taken in his/her previous study, the Department may not approve the selection in question. Students must obtain a cumulative GPA of at least 2.0 to graduate.

Curriculum study (applicable for both full-time and part-time modes)

Two compulsory courses (12 credits)

STAT7101	Fundamentals of statistical inference (6 credits)	
STAT7102	Advanced statistical modelling (6 credits)	

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Students with prior background has to take a more advanced course from the same area as replacement:

REPLACE…		WITH…	
STAT7101	Fundamentals of statistical inference (6 credits)	STAT6009 or STAT7005	Research methods in statistics (6 credits) Multivariate methods (6 credits)
STAT7102	Advanced statistical modelling (6 credits)	Any other course	

▼

Theme-specific elective courses (24 Credits)

Risk Management theme

STAT6013	Financial data analysis (6 credits)
STAT6015	Advanced quantitative risk management (6 credits)
STAT6017	Operational risk and insurance analytics (6 credits)
STAT8003	Time series forecasting (6 credits)
STAT8007	Statistical methods in economics and finance (6 credits)
STAT8015	Actuarial statistics (6 credits)
STAT8017	Data mining techniques (6 credits)
STAT8020	Quantitative strategies and algorithmic trading (6 credits)
STAT8021	Big data analytics (6 credits)
STAT8308	Blockchain data analytics (3 credits)

Data Analytics theme

STAT6011	Computational statistics and Bayesian learning (6 credits)
STAT6016	Spatial data analysis (6 credits)
STAT7005	Multivariate methods (6 credits)
STAT7007	Categorical data analysis (3 credits)
STAT7008	Programming for data science (6 credits)
STAT8003	Time series forecasting (6 credits)
STAT8016	Biostatistics (6 credits)
STAT8017	Data mining techniques (6 credits)
STAT8019	Marketing analytics (6 credits)
STAT8021	Big data analytics (6 credits)
STAT8302	Structural equation modelling (3 credits)
STAT8306	Statistical methods for network data (3 credits)

Other elective courses (18 credits)

STAT6009	Research methods in statistics (6 credits)
STAT6010	Advanced probability (6 credits)
STAT6019	Current topics in statistics (6 credits)
STAT7006	Design and analysis of sample surveys (6 credits)
STAT8000	Workshop on spreadsheet modelling and database management (3 credits)
STAT8300	Career development and communication workshop (Non-credit-bearing)

Capstone requirement (6 credits)

STAT8002	Project (6 credits)
STAT8017	Data mining techniques (6 credits)
STAT8088	Practicum (6 credits)
STAT8089	Capstone project (6 credits)

Remarks:

1. **Apart from the two compulsory courses and capstone requirement, candidates may choose not to follow any theme and may take 42 credits of elective courses in any order, whenever feasible.**
2. **The programme structure will be reviewed from time to time and is subject to change.**

Course Description

Compulsory Courses

STAT7101   Fundamentals of statistical inference (6 credits)

Motivated by real problems involving uncertainty and variability, this course introduces the basic concepts and principles of statistical inference and decision-making. Contents include: large-sample theories; estimation theory; likelihood principle; maximum likelihood estimation; hypotheses testing; likelihood ratio tests; nonparametric inference; computer-intensive methods such as EM algorithm and bootstrap methods. (Only under exceptional academic circumstances can this compulsory course be replaced by an elective course.)

Assessment: coursework (40%) and examination (60%)

STAT7102   Advanced statistical modelling (6 credits)

This course introduces modern methods for constructing and evaluating statistical models and their implementation using popular computing software, such as R or Python. It will cover both the underlying principles of each modelling approach and the model estimation procedures. Topics from: (i) Linear regression models; (ii) Generalized linear models; (iii) Model selection and regularization; (iv) Kernel and local polynomial regression; selection of smoothing parameters; (v) Generalized additive mo dels; (vi) Hidden Markov models and Bayesian networks.

Assessment: coursework (50%) and examination (50%)

Elective Courses

STAT6009   Research methods in statistics (6 credits)

This course introduces some statistical concepts and methods which potential graduate students will find useful in preparing for work on a research degree in statistics. Focus is on applications of state-of-the-art statistical techniques and their underlying theory. Contents may be selected from: (1) Basic asymptotic methods: modes of convergence; stochastic orders; laws of large numbers; central limit theorems; delta method; (2) Parametric and nonparametric likelihood methods: high-order approximations; profile likelihood and its variants; signed likelihood ratio statistics; empirical likelihood; (3) Nonparametric statistical inference: sign and rank tests; Kolmogorov-Smirnov test; nonparametric regression; density estimation; kernel methods; (4) Computationally-intensive methods: cross-validation; bootstrap; permutation methods; (5) Robust methods: measures of robustness; M-estimator; L-estimator; R-estimator; estimating functions; (6) Other topics as determined by the instructor.

Assessment: coursework (40%) and examination (60%)

STAT6010   Advanced probability (6 credits)

This course provides an introduction to measure theory and probability. The course will focus on some basic concepts in theoretical probability which are important for students to do research in actuarial science, probability and statistics. Contents include: sigma-algebra, measurable space, measure and probability, measure space and probability space, measurable functions, random variables, integration theory, characteristic functions, convergence of random variables, conditional expectations, martingales.

Assessment: coursework (40%) and examination (60%)

STAT6011   Computational statistics and Bayesian learning (6 credits)

This course aims to give undergraduate and postgraduate students an introduction on modern computationally intensive methods in statistics. It emphasizes the role of computation as a fundamental tool of discovery in data analysis and statistical inference, and for development of statistical theory and methods. Contents include: Bayesian statistics, Markov chain Monte Carlo methods such as Gibbs sampler, Metropolis-Hastings algorithm, and data augmentation; generation of random variables using the inversion methods, rejection sampling, the sampling/importance resampling method; optimization techniques including Newton's method, expectation-maximization (EM) algorithm and its variants, and minorization-maximization (MM) algorithm; integration including Laplace approximation, Gaussian quadrature, the importance sampling method, Monte Carlo integration, and other topics such as hidden Markov models, and Bootstrap methods. More advanced Bayesian learning methods cover approximate Bayesian computation, the Hamiltonian Monte Carlo algorithm, hierarchical models and nonparametric Bayes.

Assessment: coursework (50%) and examination (50%)

STAT6013   Financial data analysis (6 credits)

This course aims at introducing statistical methodologies in analyzing financial data. Financial applications and statistical methodologies are intertwined in all lectures. Contents include: recent advances in modern portfolio theory, copula, market microstructure, stochastic volatility models and high frequency data analysis.

Assessment: coursework (40%) and examination (60%)

STAT6015   Advanced quantitative risk management (6 credits)

This course covers statistical methods and models of risk management, especially of Value-at-Risk (VaR). Contents include: Value-at-risk (VaR) and Expected Shortfall (ES); univariate models (normal model, log-normal model and stochastic process model) for VaR and ES; models for portfolio VaR; time series models for VaR; extreme value approach to VaR; back-testing and stress testing.

Assessment: coursework (40%) and examination (60%)

STAT6016   Spatial data analysis (6 credits)

This course covers statistical concepts and tools involved in modelling data which are correlated in space. Applications can be found in many fields including epidemiology and public health, environmental sciences and ecology, economics and others. Covered topics include: (1) Outline of three types of spatial data: point-level (geostatistical), areal (lattice), and spatial point process. (2) Model-based geostatistics: covariance functions and the variogram; spatial trends and directional effects; intrinsic models; estimation by curve fitting or by maximum likelihood; spatial prediction by least squares, by simple and ordinary kriging, by trans-Gaussian kriging. (3) Areal data models: introduction to Markov random fields; conditional, intrinsic, and simultaneous autoregressive (CAR, IAR, and SAR) models. (4) Hierarchical modelling for univariate spatial response data, including Bayesian kriging and lattice modelling. (5) Introduction to simple spatial point processes and spatio-temporal models. Real data analysis examples will be provided with dedicated R packages such as geoR.

Assessment: coursework (50%) and examination (50%)

STAT6017   Operational risk and insurance analytics (6 credits)

This course aims to provide the foundation of operational risk management and insurance. Special emphasis will be put on the analytical and modeling techniques for operational risk and insurance. Contents include fundamentals of operational risk and Basel regulation, loss distribution, estimation of risk models, copula and modeling dependence, insurance and risk transfer for operational risk.

Assessment: coursework (40%) and examination (60%)

STAT6019   Current topics in statistics (6 credits)

This course includes two modules.

The first module, Causal Inference, is an introduction to key concepts and methods for causal inference. Contents include 1) the counterfactual outcome, randomized experiment, observational study; 2) Effect modification, mediation and interaction; 3) Causal graphs; 4) Confounding, selection bias, measurement error and random variability; 5) Inverse probability weighting and the marginal structural models; 6) Outcome regression and the propensity score; 7) The standardization and the parametric g-formula; 8) G-estimation and the structural nested model; 9) Instrumental variable method; 10) Machine learning methods for causal inference; 11) Other topics as determined by the instructor.

The second module, Functional data analysis, covers topics from: 1) Base functions; 2) Least squares estimation; 3) Constrained functions; 4) Functional PCA; 5) Regularized PCA; 6) Functional linear model; 7) Other topics as determined by the instructor.

Assessment: coursework (100%)

STAT7005   Multivariate methods (6 credits)

In many disciplines the basic data on an experimental unit consist of a vector of possibly correlated measurements. Examples include the chemical composition of a rock; the results of clinical observations and tests on a patient; the household expenditures on different commodities. Through the challenge of problems in a number of fields of application, this course considers appropriate statistical models for explaining the patterns of variability of such multivariate data. Topics include: multiple, partial and canonical correlation; multivariate regression; tests on means for one-sample and two-sample problems;

profile analysis; test for covariances structure; multivariate ANOVA; principal components analysis; factor analysis; discriminant analysis and classification.

Assessment: coursework (40%) and examination (60%)

STAT7006 Design and analysis of sample surveys (6 credits)

Inferring the characteristics of a population from those observed in a sample from that population is a situation often forced on us for economic, ethical or technological reasons. This course considers the basic principles, practice and design of sampling techniques to produce objective answers free from bias. This course will cover design and implementation of sample surveys and analysis of statistical data thus obtained. Survey design includes overall survey design, design of sampling schemes and questionnaires, etc. Sampling methods include sample size determination, sampling and non-sampling errors and biases, methods of estimation of parameters from survey data, imputation for missing data etc.

Assessment: coursework (50%) and examination (50%)

STAT7007 Categorical data analysis (3 credits)

Many social and medical studies, especially those involving questionnaires, contain large amounts of categorical data. Examples of categorical data include presence or absence of disease (yes / no), mode of transportation (bus, taxi, railway), attitude toward an issue (strongly disagree, disagree, agree, strongly agree). This course focuses on analyzing categorical response data with emphasis on hands-on training of analyzing real data using statistical software SAS. Consulting experience may be presented in the form of case studies. Topics include: classical treatments of contingency tables; measures of association; logistic linear models and log-linear models for binary responses; and log-linear models for Poisson means.

Assessment: coursework (50%) and examination (50%)

STAT7008 Programming for data science (6 credits)

In the big data era, it is very easy to collect huge amounts of data. Capturing and exploiting the important information contained within such datasets poses a number of statistical challenges. This course aims to provide students with a strong foundation in computing skills necessary to use Python to tackle some of these challenges. Possible topics to be covered may include exploratory data analysis and visualization, collecting data from a variety of sources (e.g. Excel, web-scraping, APIs and others), object-oriented programming concepts and scientific computation tools. Students will learn to create their own Python libraries.

Assessment: coursework (100%)

STAT8000 Workshop on spreadsheet modelling and database management (3 credits)

This course aims to enhance students' IT knowledge and skills which are essential for career development of statistical and risk analysts. The course contains a series of computer hands-on workshops on Excel VBA programming, MS-Access and SQL and C++ basics.

Assessment: coursework (100%), assessment of this course is on a pass or fail or distinction basis

STAT8002 Project (6 credits)

A project in any branch of statistics or probability will be chosen under the supervision of individual staff member. A substantial written report is required. Availability of this course is subject to approval.

Pre-requisites: Students should not be taking or have taken STAT8089 Capstone project or equivalent

Assessment: written report (60%) and oral presentation (40%)

STAT8003 Time series forecasting (6 credits)

A time series consists of a set of observations on a random variable taken over time. Such series arise naturally in climatology, economics, finance, environmental research and many other disciplines. In additional to statistical modelling, the course deals with the prediction of future behaviour of these time series. This course distinguishes different types of time series, investigates various representations for them and studies the relative merits of different forecasting procedures.

Assessment: coursework (40%) and examination (60%)

STAT8007 Statistical methods in economics and finance (6 credits)

This course provides a comprehensive introduction to state-of-the-art statistical techniques in economics and finance, with emphasis on their applications to time series and panel data sets in economics and finance. Topics include: regression with heteroscedastic and/or autocorrelated errors; instrumental variables and two stage least squares; panel time series model; unit root tests, co-integration, error correction models; and generalized method of moments.

Assessment: coursework (40%) and examination (60%)

STAT8015 Actuarial statistics (6 credits)

The main focus of this module will be on financial mathematics of compound interest with an introduction to life contingencies and statistical theory of risk. Topics include simple and compound interest, annuities certain, yield rates, survival models and life tables, population studies, life annuities, assurances and premiums, reserves, joint life and last survivor statuses, multiple decrement tables, expenses, individual and collective risk theory.

Assessment: coursework (40%) and examination (60%)

STAT8016 Biostatistics (6 credits)

Statistical methodologies and applications in fields of medicine, clinical research, epidemiology, public health, biology and biomedical research are considered. The types of statistical problems encountered will be motivated by experimental data sets. Important topics include design and analysis of randomized clinical trials, group sequential designs and crossover trials; survival studies; diagnosis; risks; statistical analysis of the medical process.

Assessment: coursework (40%) and examination (60%)

STAT8017 Data mining techniques (6 credits)

With the rapid developments in computer and data storage technologies, the fundamental paradigms of classical data analysis are mature for change. Data mining techniques aim at helping people to work smarter by revealing underlying structure and relationships in large amounts of data. This course takes a practical approach to introduce the new generation of data mining techniques and show how to use them to make better decisions. Topics include data preparation, feature selection, association rules, decision trees, bagging, random forests and gradient boosting, cluster analysis, neural networks, introduction to text mining.

Pre-requisites: Students should not be taking or have taken STAT8089 Capstone project or equivalent

Assessment: coursework (100%)

STAT8019 Marketing analytics (6 credits)

This course aims to introduce various statistical models and methodology used in marketing research. Special emphasis will be put on marketing analytics and statistical techniques for marketing decision making including market segmentation, market response models, consumer preference analysis and conjoint analysis. Contents include market response models, statistical methods for segmentation, targeting and positioning, statistical methods for new product design.

Assessment: coursework (40%) and examination (60%)

STAT8020 Quantitative strategies and algorithmic trading (6 credits)

Quantitative trading is a systematic investment approach that consists of identification of trading opportunities via statistical data analysis and implementation via computer algorithms. This course introduces various methodologies that are commonly employed in quantitative trading.

The first half of the course focuses at strategies and methodologies derived from the data snapshotted at daily or minute frequency. Some specific topics are: (1) techniques for trading trending and mean-reverting instruments, (2) statistical arbitra ge and pairs trading, (3) detection of "time-series" mean reversion or stationarity, (4) cross-sectional momentum and contrarian strategies, (5) back-testing methodologies and corresponding performance measures, and (6) Kelly formula, money and risk management. The second half of the course discusses statistical models of high frequency data and related trading strategies. Topics that planned to be covered are: (7) introduction of

market microstructure, (8) stylized features and models of high frequency transaction prices, (9) limit order book models, (10) optimal execution and smart order routing algorithms, and (11) regulation and compliance issues in algorithmic trading.

Pre-requisites: Pass in STAT6013 Financial data analysis or equivalent

Assessment: coursework (50%) and examination (50%)

STAT8021 Big data analytics (6 credits)

The recent explosion of social media and the computerization of every aspect of life resulted in the creation of volumes of mostly unstructured data (big data): web logs, e-mails, videos, speech recordings, photographs, tweets and others. This course aims to provide students with knowledge and skills of some advanced analytics and statistical modelling for solving big data problems. Topics include recommender system, deep learning: CNN, RNN, LSTM, GRU, natural language processing, sentiment analysis and topic modeling. Students are required to possess basic understanding of Python language.

Pre-requisites: Pass in STAT8017 Data mining techniques or equivalent

Assessment: coursework (100%)

STAT8088　Practicum (6 credits)

This course is open to students of Master of Statistics Programme only. It provides students with first-hand experience in the applications of academic knowledge in a real-life work environment. To be eligible, students should be undertaking a statistics-related or risk-management-related practicum with no less than 160 hours in at least 20 working days spent in a paid or unpaid position. It is possible for part-time students to complete their practicum within their current place of employment. The practicum will normally take place in the second semester or summer semester for full-time students or during the second year for part-time students.

Assessment: Upon completion of the practicum, each student is required to submit a written report (60%) and to give an oral presentation (40%) on his/her practicum experience. Supervisors will assess the students based on their performance during the practicum period. Assessment of this course is on a Pass or Fail or Distinction basis with 3 criteria: (1) supervisor's evaluation, (2) written report, (3) oral presentation. Please note that fail in fulfilling any of the 3 criteria satisfactorily would lead to a "Fail" grade in the course.

STAT8089　Capstone project (6 credits)

This project-based course aims to provide students with capstone experience to work on a real-world problem and carry out a substantial data analysis project which requires integration of the knowledge they have learnt in the curriculum. Students will work in small groups under the guidance of their supervisor(s). The project topic is not limited to academic context, but can also be extended to a community or corporate outreach project. Students will need to find an interesting topic of their own, conduct literature search regarding the most recent research related to the problem, make suggestions to improve the current situations or even solve the problem identified in their project. A substantial written report is required.

Pre-requisites: Students should not be taking or have taken STAT8002 Project or STAT8017 Data mining techniques or equivalent

Assessment: project proposal (15%); written report (50%) and oral presentation (35%)

STAT8300　Career development and communication workshop (Non-credit-bearing)

The course is specially designed for students who wish to sharpen their communication and career preparation skills through a variety of activities including lectures, skill-based workshops, small group discussion and role plays. All of which aim to facilitate students in making informed career choices, provide practical training to enrich communication, presentation, time management and advanced interview skills, and to enhance students' overall competitiveness in the employment markets.

Assessment: coursework (100%), assessment of this course is on a pass or fail or distinction basis

STAT8302　Structural equation modelling (3 credits)

Structural Equation Modelling (SEM) is a general statistical modelling technique to establish relationships among variables. A key feature of SEM is that observed variables are understood to represent a small number of "latent constructs" that cannot be directly measured, only inferred from the observed measured variables. This course covers the theories of structural equation models and their applications. Topics may include path models, confirmatory factor analysis, structural equation models with latent variables, Sub-models including multiple group analysis, MIMIC model, second order factor analysis, two-wave model, and simplex model, model fitness, model identification, and Comparison with competing models.

Pre-requisites: Pass in STAT7005 Multivariate methods or equivalent

Assessment: coursework (50%) and examination (50%)

STAT8306　Statistical methods for network data (3 credits)

The six degrees of separation theorizes that human interactions could be easily represented in the form of a network. Examples of networks include router networks, the World Wide Web, social networks (e.g. Facebook or Twitter), genetic interaction networks and various collaboration networks (e.g. movie actor coloration network and scientific paper collaboration network). Despite the diversity in the nature of sources, the networks exhibit some common properties. For example, both the spread of disease in a population and the spread of rumors in a social network are in sub-logarithmic time. This course aims at discussing the common properties of real networks and the recent development of statistical network models. Topics may include common network measures, community detection in graphs, preferential attachment random network models, exponential random graph models, models based on random point processes and the hidden network discovery on a set of dependent random variables.

Assessment: coursework (100%)

STAT8308　Blockchain data analytics (3 credits)

In this course, we start by studying the basic architecture of a blockchain. Then we move on to several major applications including (but not limited to) cryptocurrencies, fintech and smart contracts. We conclude by examining the cybersecurity issues facing the blockchain ecosystems

Assessment: coursework (100%)

Programme Duration and Class Schedules

The programme normally extends over one academic year for full-time study, and two academic years for part-time study. Teaching will take place mostly in day-time from Monday to Saturday for courses having course codes STAT6XXX, and on weekday evenings, and Saturday mornings and afternoons for courses having course codes STAT7XXX or STAT8XXX. All lectures are conducted in English at HKU.

Optional Preparatory Courses

- Preparatory courses in matrices and calculus for students who need to rejuvenate their mathematical skills (August, 2023)
- Review course on basic probability and statistics concepts to solidify students' conceptual understanding (August, 2023)
- Workshop in R covering data handling, graphics, mathematical functions and some basic statistical techniques (August, 2023)
- Workshop in SAS for students who need to rejuvenate their skills in data management using SAS (August, 2023)
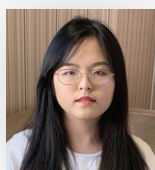
Students Testimonial

MStat program offers a wide variety of statistical course for students to choose, from conventional statistical inference and modelling to more heated topics such as data mining and blockchain analysis. The data mining and big data analytics courses I took were not only inspirational from the theoretical perspective, but also helpful by offering hands-on experience useful for my everyday work as an actuary. With the adoption of new accounting standards in the industry, revamp of existing data structure and models is essential. The techniques and mindset of big data analytics learnt from the program can certainly be put to good use. The program serves as a great opportunity for students to develop the necessary skills under the big data era.

CHAN Wing Ho Ronald [MStat Part-time Graduate 2022]
Senior Actuarial Analyst, Hong Kong Life Insurance Limited

The MStat program is an eye opener. I learnt the application of Statistics in areas not limited to Finance, but also interesting fields including geography, computer science and social economics. Though I might not have much background in those fields, I was able to understand and dig deep with the help of instructors, who made use of the statistical theories and models to explain some hot topics nowadays. MStat programme allows me to explore Statistics with fun and it has deepened my interest in further study. I would also like to thank all the staff for their effort in providing qualified teaching and learning experience amid the difficult pandemic times.

MO Tsz Kin [MStat Part-time Graduate 2021]
Assistant Secretary, HKSARG Immigration Department

I think the MStat program is an excellent opportunity for students to realize their goals. The MStat program provides a variety of selective courses, which combine the academic knowledge and practical applications very well, so students can gain plenty of advanced statistical theories as well as understand the applications of these knowledge in real life. During my one year study, I really enjoyed the academic atmosphere here, all professors are willing to help me with my academic research. So I decide to become a PhD student here. Thanks to the MStat program, it improved my academic performance and I finally received the PhD offer of statistics in HKU.

LIU Ruihan [MStat Full-time Graduate 2022]
PhD in Statistics, The University of Hong Kong

The Master of Statistics program is well designed to offer extensive training in theories and practice of statistics. It provides a wide range of courses from fundamentals of statistics to more theme-specific elective courses, such as data mining techniques and big data analytics. During my two-years' time at HKU, I was able to not only hone my knowledge in statistics but also gain exposure in programming languages such as Python, SAS, and R, which are essential skillsets in many industries. Most of the courses generally have a good balance between theories and practical applications. I would highly recommend this program to someone who would like to gain knowledge in the field of statistics and data science.

KIM Bohyun [MStat Part-time Graduate 2020]
Associate, PIMCO Asia Limited

The MStat Program is a natural extension of my undergraduate statistics study. In this program, students could learn both advanced theoretical knowledge and statistical application in various areas, and they could choose from a variety of courses offered. With programming being more and more important in recent years, MStat Program has many elective courses teaching different programming languages, which is beneficial to career development. Also, the practicum course STAT8088 offers students a chance to get an idea of how real work looks like and prepares them better for their future job. Besides knowledge learned, students could improve their problem solving and critical thinking ability, which are necessary for any kind of position.

JIANG Aixin [MStat Full-time Graduate 2021]
Rotational Development Program, Jane Street

My two years studying in MStat has been very fruitful and rewarding, preparing me for my career and beyond. Having worked in the financial sector for some time, I have seen first-hand how important it is to have a statistical mindset, and the MStat programme has been very fulfilling in this regard. Not only did it provide me with the analytical and quantitative skill sets required to navigate the age of Big Data, it also has deep coverage on the theoretical aspects underlying the statistical techniques used. A significant proportion of the coursework also focuses on real-life applications, so students of this programme can expect to bring immediate impact on their jobs.

CHAN Kwan Wah [MStat Part-time Graduate 2020]
Associate Director, UBS Group AG

Examples of backgrounds of admitted students in recent years:

HKSAR Government departments/ units:
- Statistician
- Statistical Assistant
- Research Manager
- Economist

Hospital Authority/ Private clinics:
- Associate Consultant
- Senior Statistical Officer
- Senior Medical Officer

Private companies:
- Associate Director
- Technical Service Delivery Manager
- Senior Consultant

- Senior Credit Risk Officer
- Data Analyst
- Consultant, Data Analytics
- Engineering Assistant
- Senior Marketing Executive
- Asset Management Analyst

Education profession:
- Teacher
- Research Officer
- Research Assistant
- Senior Lecturer

Banking and finance profession:
- Manager, Market Risk and Liquidity Modeling

- Senior Traded Risk Analytics Manager
- Assistant Portfolio Manager
- Data Scientist
- Equity Research Associate
- Equity Sales Analyst
- Senior Business Analyst
- Quantitative Analyst
- Quantitative Developer
- System Analyst/ Programmer
- Senior Business Intelligence Analyst
- Senior Development Specialist
- Forensic Technology Associate
- Associate (Risk Management)
- Application Consultant
- Securities Lending Trader

Congregation

From 2021-22, two Congregations will be held annually (in July and December respectively) which is to align with international practices and to facilitate the convenience for students. Graduands who are eligible for graduation will be assigned to the Congregation nearest to the completion date of their studies for conferral of degree.

- Expected graduation time for normative study period
  Full Time *(1 year)* : Summer (July 2024)
  Part Time *(2 years)* : Summer (July 2025)

- Expected graduation time if students take summer courses in final year
  Full Time *(1 year)* : Winter (November/December 2024)
  Part Time *(2 years)* : Winter (November/December 2025)

Tuition Fees

The composition fee for the programme is HK$204,000# for the 2023 intake. The fee shall be payable in two instalments over one year for full-time study or in four instalments over two years for part-time study. In addition, student is required to pay Caution Money (HK$350), which would be used to offset the graduation fee or, if the student is not graduating, be returned to the student.

The University allows Occasional Students to enroll in individual courses without registering in any particular programme of study. Tuition fee for an Occasional Student is HK$3,400# per credit in the academic year 2023-24.

 # Subject to approval

Target Students

It is a programme ideal for

- Those whose wish to advance their quantitative and analytical skills to prepare for a data-focused career path, and
- Those who wish to pursue further study in the field of statistics after studying science, social sciences, engineering, medical sciences, information systems, business and finance in their undergraduate studies.

Admission Requirements

- Applicants shall hold a Bachelor's degree with Honours, or an equivalent qualification with knowledge of matrices and calculus, introductory statistics and linear modelling.
- Applicants shall fulfil the University Entrance Requirements.

Application Deadline

Main Round: 12 noon (GMT +8), December 14, 2022
Clearing Round: 12 noon (GMT +8), January 31, 2023

Programme Details

https://saasweb.hku.hk/programme/mstat.php

Online Application

https://admissions.hku.hk/tpg/

Programme Director

Dr Z Q Zhang

BSc(Nankai); MSc(E China Normal); PhD(HK)
Department of Statistics & Actuarial Science

STAFF LIST

Dr Y Cao	BS(Fudan); MS, PhD(Princeton)
Prof K C Cheung	BSc(ActuarSc), PhD HK; ASA
Dr L Feng	BS(Renmin U), PhD(Rutgers)
Dr K Han	PhD(HK)
Dr M Hofert	MSc Syracuse; Dipl.-Math. oec., Dr. rer. nat. Ulm
Dr C W Kwan	BSc, PhD HK
Dr E K F Lam	BA St. Thomas; MA New Brunswick; PhD HK
Dr A S M Lau	BEng(City), MSc(HK); PhD(CUHK)
Dr D Lee	BSc(ActuarSc), MPhil HK; PhD British Columbia; ASA
Prof S M S LEE	BA, PhD Cantab
Dr E A L Li	BSc HK; MEcon, PhD Syd
Prof G D Li	BSc, MSc Peking; PhD HK
Dr C Wang	PhD NUS
Dr K P Wat	BSc(ActuarSc), PhD HK; SFHEA; FSA; FASHK; CERA; FRM
Prof H L Yang	BSc Inner Mongolia; MMath Waterloo; PhD Alberta; ASA; HonFIA
Dr L Q Yu	BEng ZJU; PhD CUHK
Prof K C Yuen	BSc, MSc, PhD Calgary; ASA
Dr D Y Zhang	BSc Nankai; MSc, PhD NCSU
Dr M M Zhang	BS UCSB; MS, PhD UT Austin
Dr Z Q Zhang	BSc Nankai; MSc E China Normal; PhD HK
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Enquiries

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Support for International Students

https://cedars.hku.hk/
Useful information for students:
https://cedars.hku.hk/publication.php

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