Master of Statistics

Advanced Knowledge
Practical Skills
Professional Views

Apply now for entry in September 2019

Big data analytics
Risk management & Basel accords
Data mining
Algorithmic trading
Social Network
Marketing analytics
Spatial data analysis

THE UNIVERSITY OF HONG KONG
FACULTY OF SCIENCE
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. Since the first graduation in 1989, we expect to have about 950 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.

### 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 a 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, for students in this programme based on their examination results of the concerned study period.

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

Five courses in the programme:
- STAT7006 Design and analysis of sample surveys
- STAT8007 Statistical methods in economics and Finance
- STAT8014 Risk management and Basel Accords
- STAT8015 Actuarial statistics
- STAT8017 Data mining techniques

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

"Careers in STEM – like Mathematician, Statistician, Data Scientist and Actuary – shape the Best Jobs of 2018, which is no deviation from recent trends."


"Integration of statistical inference principles as part of Big Data will be essential to resolve these (big data) challenges."

Extracted from the Federal Big Data Research and Development Strategic Plan by the Executive Office of the President of the USA.
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 for Full-time study

<table>
<thead>
<tr>
<th>Two compulsory courses (12 credits)</th>
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<tbody>
<tr>
<td>STAT6008  Advanced statistical inference (6 credits)</td>
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<tr>
<td>STAT6014  Advanced statistical modelling (6 credits)</td>
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**Students with prior background has to take a more advanced course from the same area as replacement:**

REPLACE...

<table>
<thead>
<tr>
<th>Courses</th>
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<tbody>
<tr>
<td>STAT6008  Advanced statistical inference</td>
<td>STAT6009  Research methods in statistics</td>
</tr>
<tr>
<td>STAT6014  Advanced statistical modelling</td>
<td>Any other course</td>
</tr>
<tr>
<td>STAT7004  Linear modelling</td>
<td>STAT6014  Advanced statistical modelling</td>
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### Theme-specific elective courses (24 Credits)

#### Risk Management theme

<table>
<thead>
<tr>
<th>plus 24 credits from</th>
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<tbody>
<tr>
<td>STAT6013  Financial data analysis (6 credits)</td>
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<tr>
<td>STAT6015  Advanced quantitative risk management and finance (6 credits)</td>
</tr>
<tr>
<td>STAT6017  Operational Risk and Insurance Analytics (6 credits)</td>
</tr>
<tr>
<td>STAT8003  Time series forecasting (6 credits)</td>
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<tr>
<td>STAT8007  Statistical methods in economics and finance (6 credits)</td>
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<tr>
<td>STAT8014  Risk management and Basel Accords (6 credits)</td>
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<td>STAT8015  Actuarial statistics (6 credits)</td>
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<td>STAT8017  Data mining techniques (6 credits)</td>
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<tr>
<td>STAT8020  Quantitative strategies and algorithmic trading (6 credits)</td>
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<tr>
<td>STAT8021  Big data analytics (6 credits)</td>
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<tr>
<td>STAT8055  Bayesian statistics (3 credits)</td>
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#### Data Analytics theme

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<tr>
<td>STAT6011  Computational statistics (6 credits)</td>
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<tr>
<td>STAT6014  Advanced statistical modelling (for part-time study only) (6 credits)</td>
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<tr>
<td>STAT6016  Spatial data analysis (6 credits)</td>
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<tr>
<td>STAT7005  Multivariate methods (6 credits)</td>
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<td>STAT7007  Categorical data analysis (6 credits)</td>
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<td>STAT7008  Programming for data science (6 credits)</td>
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<td>STAT8003  Time series forecasting (6 credits)</td>
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<td>STAT8016  Biostatistics (6 credits)</td>
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<td>STAT8017  Data mining techniques (6 credits)</td>
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<td>STAT8019  Marketing analytics (6 credits)</td>
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<td>STAT8021  Big data analytics (6 credits)</td>
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<td>STAT8302  Structural equation modelling (3 credits)</td>
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<td>STAT8305  Bayesian statistics (3 credits)</td>
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<td>STAT8306  Statistical methods for network data (3 credits)</td>
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<td>STAT8307  Text analytics (3 credits)</td>
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### Other elective courses (18 credits)

<table>
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<th>plus at least 18 credits from</th>
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<tr>
<td>STAT6008  Advanced statistical inference (6 credits)</td>
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<td>STAT6009  Research methods in statistics (6 credits)</td>
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<tr>
<td>STAT6010  Advanced probability (6 credits)</td>
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<tr>
<td>STAT7006  Design and analysis of sample surveys (6 credits)</td>
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<tr>
<td>STAT7030  Socio-economic statistics for business and public policies (3 credits)</td>
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<tr>
<td>STAT8000  Workshop on spreadsheet modelling and database management (3 credits)</td>
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<tr>
<td>STAT8002  Career development and communication workshop (3 credits)</td>
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<tr>
<td>STAT8004  Current topics in Statistics (3 credits)</td>
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<tr>
<td>Any theme-specific elective courses</td>
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<tr>
<td>Any capstone courses</td>
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### Capstone requirement (6 credits)

<table>
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<th>plus 6 credits from</th>
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<tr>
<td>STAT8002  Project (6 credits)</td>
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<td>STAT8017  Data mining techniques (6 credits)</td>
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<td>STAT8088  Practicum (6 credits)</td>
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<tr>
<td>STAT8089  Capstone project (6 credits)</td>
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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.
Description of Courses

STAT6008  Advanced statistical inference (6 credits)
This course covers the advanced theory of point estimation, interval estimation and hypothesis testing. Using a mathematically-oriented approach, the course provides a formal treatment of inferential problems, statistical methodologies and their underlying theory. It is suitable in particular for students intending to further their studies or to develop a career in statistical research. Contents include: (1) Decision problem – frequentist approach: loss function, risk, decision rule, admissibility; minimaxity, unbiasedness; Bayes’ rule; (2) Decision problem – Bayesian approach; prior and posterior distributions, Bayesian inference; (3) Estimation theory: exponential families; likelihood, sufficiency, minimal sufficient; completeness; UMVU estimators; information inequality; large-sample theory of maximum likelihood estimation; (4) Hypothesis testing: uniformly most powerful (UMP) tests; simple and composite hypotheses; likelihood ratio tests; Monotone likelihood ratio; UMP unbiased test; conditional test; large sample theory of likelihood ratio; confidence set; (5) Nonparametric inference; bootstrap methods.
Assessment: One 2-hour written examination; 60% coursework and 40% examination

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: central limit theorems; delta method; (2) Parametric and nonparametric likelihood methods: large-order approximations; profile likelihood and its variants; signed likelihood ratio statistics; empirical likelihood; (3) Nonparametric: statistical inference: goodness of rank tests; Kolmogorov-Smirnov tests; nonparametric regression; density estimation; kernel methods; (4) Computationally-intensive methods: cross-validation; bootstrap, permutation methods; (5) Robust methods: estimation of location; M-estimator; R-estimator; estimation functions; (6) Other topics as determined by the instructor.
Assessment: One 2-hour written examination, 25% coursework and 75% examination

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, Hilbert spaces, conditional expectations, martingales.
Assessment: One 2-hour written examination, 25% coursework and 75% examination

STAT6011  Computational statistics (6 credits)
This course aims to give postgraduate students in statistics a background in modern computationally-intensive methods in statistics. It emphasizes the role of computation as a fundamental tool of discovery in data analysis, of discovery in statistics, and for development of statistical theory and methods. Contents include: Bayesian statistics, Markov chain Monte Carlo methods including Gibbs sampler, Metropolis-Hastings and data augmentation; Generation of random variables including the inversion method, rejection sampling, the sampling/importance resampling method; Optimization techniques including Newton-Raphson; Expectation-maximization (EM) algorithm and its variants, Minorization-maximization (MM) algorithm; Integration including Laplace approximations; Gaussian quadrature; the Importance sampling method; Numerical optimization and integration; EM algorithm and its variants, Simulation and Monte Carlo integration, Importance sampling and variance reduction techniques; and other topics such as Hidden Markov models, neural networks, and Bootstrap methods.
Pre-requisites: Students should not be taking or have taken STAT7005 Bayesian statistics or equivalent
Assessment: One 2-hour written examination, 25% coursework and 75% examination

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 developments in financial theory; copula, market microstructure and high frequency data analysis.
Assessment: One 2-hour written examination, 40% coursework and 60% examination

STAT6014  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 and S-Plus. It will cover both the underlying principles of each modelling approach and the model estimation procedures. Topics from: (i) Generalized linear models; (ii) Mixed models; (iii) Kernel and local polynomial regression methods; (iv) Generalized additive models; (v) Hidden Markov models and Bayesian networks.
Assessment: One 2-hour written examination, 50% coursework and 50% examination

STAT6015  Advanced quantitative risk management and finance (6 credits)
This course covers statistical concepts and methods of importance to risk management and finance and links finance theory to market practice via statistical modelling and decision making. Emphasis will be put on empirical analyses to address the discrepancy between financial theory and market data. Contents include: Elementary Stochastic Calculus; Basic Monte Carlo and Quasi-Monte Carlo Methods; Variance Reduction Techniques; Simulating the value of options and the value-at-risk for risk management; Review of univariate volatility models; multivariate volatility models; Value-at-risk and expected shortfall; estimation, back-testing and stress testing; Extreme value theory for risk management.
Assessment: One 2-hour written examination; 25% coursework and 75% examination

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 lattices), and spatial point process. (2) Model-based geostatistics: covariance functions and the variogram; spatial trends and directional effects; intrinsinc 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, ARI, SAR) models. (4) Hierarchical models for univariate and multivariate 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. (6) Computer practicals.
Assessment: One 2-hour written examination, 50% coursework and 50% examination

STAT7001  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: One 2-hour written examination; 25% coursework and 75% examination

STAT7003  Foundations of statistics (6 credits)
Motivated by real problems involving uncertainty and variability, this course introduces the basic concepts and principles of statistical inference and decision-making. Ideas developed will include probability modeling, statistical distributions, parametric classes; the likelihood principle; maximum likelihood estimation; likelihood ratio tests; hypotheses testing. (Only under exceptional academic circumstances can this compulsory course be replaced by an elective course.)
Assessment: One 2-hour written examination, 25% coursework and 75% examination

STAT7004  Linear modelling (6 credits)
Much of the statistical analysis is concerned with locating the sources of variability, and many current statistical techniques investigate these sources through the use of ‘linear’ models. This course presents a unified theory of statistical problems including regression; variance and covariance analyses; design of experiments; and their practical implementation with statistical packages. (Only under exceptional academic circumstances can this compulsory course be replaced by an elective course.)
Assessment: One 3-hour written examination, 25% coursework and 75% examination

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: multivariate, 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: One 3-hour written examination; 40% coursework and 50% examination

STAT7006  Design and analysis of sample surveys (6 credits)
(CEF code: 212263-A)
Inferning the characteristics of a population from those observed in a selection or sample from that population is a situation often forced on us for economic, ethical or technological reasons. Against the background of practical situations, this course considers the basic principles, practice and design of sampling techniques to produce objective answers free from bias. Emphasis will be on current and local problems.
Assessment: One 3-hour written examination, 25% coursework and 75% examination
STAT7007 Categorical data analysis (6 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). The course focuses on analysing categorical response data with emphasis on hands-on training of analyzing real data using statistical software such as SAS. Consulting experience may be presented in the form of case studies. Topics include: classical treatments of 2- and 3-way contingency tables, measures of association and nonparametric methods; generalized linear models, logistic regression for binary, multinomial and ordinal data, loglinear models, Poisson regression, Modeling repeated measurements; generalized estimating equations.
Assessment: One 3-hour written examination; 50% coursework and 50% examination

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 R or 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 computing tools. Students will learn to create their own R packages or Python libraries.
Assessment: 100% coursework

STAT7301 Socio-economic statistics for business and public policies (3 credits)
Huge volumes of socio-economic statistics are compiled and published on society and the economy by Governments and other bodies locally and elsewhere. Strong ability of business managers and authorities concerned to make effective reference to relevant data greatly enhances the quality of decision making in business and public policy processes. Students will learn about globally accepted standards for the compilation and dissemination of important data, such as those on population, labour, economic structure in particular GDP, productivity, prices, trade, finance, housing, health and education; how to obtain them; and appropriate methods of utilizing them for the purposes of understanding socio-economic phenomena and making sound decisions. Some practical examples drawn from Hong Kong and elsewhere will be presented.
Assessment: One 1.5-hour written examination; 40% coursework and 60% examination

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: 100% coursework, 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: 60% written report and 40% oral presentation

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, environment 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: One 3-hour written examination; 40% coursework and 60% examination

STAT8007 Statistical methods in economics and finance (6 credits) (CEF code: 23Z08301-3)
This course provides a comprehensive introduction to state-of-the-art statistical methods in economics and finance, with emphasis on their applications to time series and panel data sets in economics and finance. Topics include: regression with autocorrelated errors, modelling returns and volatility, instrumental variables and two stage least squares, panel time series models, unit root tests, co-integration, error correction models.
Assessment: One 3-hour written examination; 25% coursework and 75% examination

STAT8014 Risk management and Basel Accords (6 credits) (CEF code: 23Z02504-5)
Being an important financial centre, Hong Kong has always been on the alert for risk in the banking and financial industry. We have weathered many attacks and crises over the past decades. Following the deep and long lasting global financial crisis started in 2007/08, this risk has been the primary focus of most people. This course will provide, and it is paramount for people in or related to the industry be fully aware of the relevant risk management, including the nature, the culture, the framework, the cycle, the measurement with focus on market, credit and operational risk and the mitigation techniques, along with the knowledge of the Basel Accords and practical critical issues.
Assessment: One 3-hour written examination; 40% coursework and 60% examination

STAT8019 Marketing analytics (6 credits)
This course introduces 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: One 3-hour written examination; 40% coursework and 60% examination

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 arbitrage 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, (10) efficient smart order routing algorithms, and (11) regulation and compliance issues in algorithmic trading.
Pre-requisites: Pass in STAT6013 Financial data analysis or equivalent
Assessment: One 2-hour written examination; 60% coursework and 40% examination
Pre-requisites: Students should not be taking or have taken STAT6011 computation. MCMC techniques. Statistical software R and Python will be used for Bayesian Metropolis-Hastings algorithm, Gibbs sampling, and data augmentation hierarchical modeling, and Bayesian decision theoretic analysis. From the use of Markov chain Monte Carlo (MCMC). It covers fundamental Bayesian concepts, This course introduces Bayesian methodologies and computational techniques 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, MMC model, second order factor analysis, two-wave model, and simplex model, model fitness, model identification, and Comparison with competing models.

Pre-requisites: Pass in STAT8017 Data mining techniques or equivalent; students should not be taking or have taken STAT3037 Text analytics or equivalent  Assessment: 100% coursework

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, MMC 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: One 1.5-hour written examination; 50% coursework and 50% examination

STAT8306 Statistical methods for network data (3 credits)
The six degrees of separation theories 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 collaboration 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: One 1.5-hour written examination; 50% coursework and 50% examination

Programme Duration and Class Schedules
The programme extends over not less than one academic year for the full-time study, and not less than two academic years for the 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 (7:00 – 10:00 p.m.), and Saturday mornings (9:30 a.m. – 12:30 p.m.) and afternoons (2:00 – 5:00 p.m.) For courses having course codes STAT3XXX or STATBXXX. All lectures are conducted in English at HKU.

Optional Summer Courses:
- A 12-hour preparatory course in matrices and calculus for part-time students who need to rejuvenate their skills (August, 2019).
- A 6-hour introductory course to the use of the language R for data analysis and graphics. This beginners’ course covers data handling, graphics, mathematical functions and some basic statistical techniques. (August, 2019).
- A 12-hour tutorial in SAS for all the students who need to rejuvenate their skills in data management using SAS (August, 2019).
Target Students
The programme is for individuals who wish to acquire the knowledge, practical skills and professional views in statistics. Although most students come from a wide range of disciplines, those who have no former training in statistics should have considerable working experience.

Students Testimonial
Over the past 2 years, the MStat program brought me a fruitful experience. Not only I learnt a lot about advanced data analytics techniques, but also got a lot of hands-on experience in applying them to practical problems. It also opens my mind about the range of application of statistics and data analytics in different fields. Moreover, the program provides me with the opportunity to meet with people from different backgrounds and we shared experience with each other. I am an actuary and there is an increasing focus on predictive analytics in my current field, hence the program gives me sound foundation to explore how to apply the techniques learnt to discover predictive patterns and relationships for business uses.

WONG Cheuk Yin [MStat Part-time Graduate 2018]
Senior Actuarial Consultant, HSBC Insurance (Asia) Ltd

The MStat program gives opportunities for students to decide their paths. For those who would like to go into research areas, capstone and other advanced courses will fit you. For those who want to start their career ASAP like me, you can complete an internship instead of doing academic projects. The professors and lecturers are also very helpful.

LI Yi [MStat Full-time Graduate 2018]
Associate in Consulting, PwC

My year of being in the MStat programme was definitely a fruitful year, and one that I will cherish. It was one full of discoveries and excitement, in which I had the opportunity to explore and learn more about statistical knowledge, and how it could possibly connect to the real world. It even helped me understand the beauty of statistics, hence bringing me a lot of joy.

The programme has also proven to be beneficial in my work as a football trader in the Hong Kong Jockey Club, as it has equipped me with the knowledge and techniques needed. For instance, in the football field, every little move that a player makes could be used as a statistic, hence involving math. Thus, the MStat programme has been very useful in helping me analyze and comprehend such information. All in all, I am very thankful for the programme as it was very helpful and has allowed me to do my best in the workplace.

KEUNG Ka Chun [MStat Full-time Graduate 2018]
Football trader, Hong Kong Jockey Club

Examples of backgrounds of admitted students in recent years:

HKSAR Government departments/units:
• Research Manager
• Researcher (Statistics)
• Research Officer
• Immigration Officer
• Statistical Assistant
• Statistical Officer

Education profession:
• Consultant
• Senior Lecturer
• Teacher
• Website Editor
• Research Assistant
• Teaching Assistant

Banking and finance profession:
• Executive Director
• Vice President
• Head of Business Intelligence
• Senior Manager
• Manager
• Business Analyst Manager
• Credit Risk Manager
• Financial Crime Compliance Assistant Manager
• Lead Financial Data Analyst
• Actuarial Analyst
• Quantitative Analyst
• Equity Research Associate
• Fund Accountant
• Senior Project Officer

Private companies:
• Director
• Assistant Vice President
• Head of Corporate Administration and Operation

HKSAR Government departments/units:
• Senior Consultant
• Consulting Engineer
• Technical Service Delivery Manager
• Deputy Manager
• Data Scientist
• Business Intelligence Analyst
• Marketing Executive
• Solution Scheme Specialist
• Software Engineer
• Analyst Programmer
• Quantitative Developer
• Software Developer
• System Analyst
• Trading Analyst
• Senior Industrial Engineering Officer
• Data Analytics Engineer

Examples of backgrounds of admitted students in recent years:
Tuition Fees

The composition fee for the full-time programme is HK$160,000* for the 2019 intake and that for the part-time programme is HK$80,000 per year for two years. 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, students are required to pay Caution Money (HK$350), refundable on graduation subject to no claims being made, and Graduation Fee (HK$350).

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$2,670* per credit in the academic year 2019-20.

* Subject to approval

Requirements

A Bachelor's degree with Honours, or equivalent qualification, with knowledge of matrices and calculus. Full-time applicants should have knowledge of introductory statistics and linear modelling.

Application

Online application can be accessed via https://www.aal.hku.hk/tpg/

Application Deadline

Main Round: December 14, 2018
Clearing Round: 12 noon, January 31, 2019

Programme Director

Dr YK Chung
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Programme Details:
https://www.saasweb.hku.hk/programme/mstat.php

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