Master of Science in
Mathematics for Finance and Actuarial Science
金融與精算數學理學碩士

General Stream
Financial Computing Stream

City University of Hong Kong and
Université Paris-Dauphine
Joint Degree Programme

Programme Code: P62
2-Year Part-time / 1-Year Full-time
2013 Intake

香港城市大學
**City University
of Hong Kong**

**COLLEGE OF SCIENCE
AND ENGINEERING**
科學及工程學院

**DEPARTMENT OF
MATHEMATICS**
數 學 系

DAUPHINE
UNIVERSITÉ PARIS

DEPARTMENT OF
MATHEMATICS OF
DECISION SCIENCES

Introduction

This programme is jointly offered by City University of Hong Kong and a prestigious French University: Université Paris-Dauphine. The programme emphasizes the development of students' ability to evaluate and develop financial and actuarial business opportunities. It also provides students with the theoretical knowledge necessary for complex financial and insurance operations. Furthermore, the programme enhances their mathematical and computational skills in Financial Engineering, Actuarial Science and Risk Management. The graduates should be able to price various modern financial and insurance products and to assess and manage financial and insurance risks. The programme will significantly enhance the competitiveness of its graduates in the job market. It is expected that students majoring in Financial Engineering, Actuarial Science, Mathematics, Statistics, Physics, Engineering, Computing and Information Technology, etc. as well as professionals from both finance and insurance industries will benefit from this master degree programme.

Unique Features

- The degree is jointly awarded by City University of Hong Kong and Université Paris-Dauphine, a top-ranked university worldwide, especially in the areas of Mathematical Finance and Actuarial Science.

- The courses are jointly taught by experts from City University of Hong Kong and Université Paris-Dauphine.

- Students from Université Paris-Dauphine will come to Hong Kong to join this programme. This provides the chance for interaction between local students and French students.

- This is the first postgraduate programme with a well-balanced course structure covering state-of-the-art knowledge in Mathematical Finance and Actuarial Science in Hong Kong.

Department of Mathematics at City University of Hong Kong

The Department specializes in applied and computational mathematics. It possesses a strong team of over 20 full-time academic faculty members who are experts in a wide range of applied topics. They are active researchers with excellent track records. The Department provides ideal learning environment for students and trains them in practical problem solving.

Department of Mathematics of Decision Sciences at Université Paris-dauphine

The Université Paris-Dauphine is internationally renowned in the fields of mathematical finance and actuarial science. The Department of Mathematics of Decision Sciences is known for its focused and well-designed teaching activities and it runs an extremely successful master degree programme in actuarial science. The Department has attracted many world's leading scholars in the field of Mathematical Finance and Actuarial Science and their faculty members include Fields Medallists and members of the French Academy of Sciences. In addition, the Department is home to one of Europe's leading research centres, Centre De Recherche en Mathématiques de la Décision (CEREMADE).

Université Paris-Dauphine
(Photo source: photoenligne.free.fr)

Agreement Signing Ceremony between CityU and the Université Paris-Dauphine to launch the MSMFAS programme in 2004.

Students attending a class taught by a professor from the Université Paris-Dauphine.

Programme Structure

The programme consists of two streams:

1. General Stream
2. Financial Computing Stream

Students are required to complete a minimum of 30 credit units*:

Course Type	General Stream	Financial Computing Stream
Compulsory courses	12 credit units	15 credit units
Electives	18 credit units	15 credit units
Total	30 credit units	30 credit units

* *Each course is worth 3 credit units except Dissertation (6 credit units).*

Students are required to take the compulsory courses specified for the relevant streams stated below:

Compulsory Courses	General Stream	Financial Computing Stream
Actuarial Science	✓	—
Computer Programming	—	✓
Investments	✓	✓
Mathematical Methods for Finance and Actuarial Science	✓	✓
Numerical Methods	—	✓
Programming and Computing in Finance and Actuarial Science	✓	✓

Students are required to select courses from a pool of elective courses listed below available for the relevant streams:

Electives	General Stream	Financial Computing Stream
Actuarial Science	—	✓
Advanced Actuarial Science	✓	✓
Advanced Database Systems	—	✓
Advanced Mathematical Methods for Finance and Actuarial Science**	✓	✓
Applied Partial Differential Equations	✓	✓
Dissertation	✓	✓
Internet Application Development	—	✓
Mathematical Methods for Risk Management	✓	✓
Mathematical Models and Methods in Asset Management**	✓	✓
Model Calibration in Finance and Actuarial Science	✓	✓
Numerical Methods	✓	—
Numerical Partial Differential Equations	✓	✓
Option Pricing	✓	✓
Seminars in Mathematics for Finance and Actuarial Science	✓	✓
Special Topics in Actuarial Science	✓	✓
Statistical Methods for Stochastic Models in Finance and Actuarial Science**	✓	✓
Statistical Methods in Science and Technology	✓	✓
Stochastic Interest Rate Models	✓	✓

** *Students (General Stream) are required to take at least two of these three electives during their studies.*

A pool of addition electives from the Departments of Computer Science, Economic and Finance and Management Sciences is also available for selection. Students can take a maximum of 3 credits from a list of specified courses offered by these departments.

Mode of Study

The courses will be delivered during evenings and, probably, also on Saturday afternoons. Some courses will be taught in intensive mode by overseas experts (i.e. 39 hours to be taught in 7 weeks in Semester A/B or 5 weeks in Summer Term). Since full-time students may also take some courses along with part-time students, they may have to attend classes in the evenings and weekends.

Normal Study Period

- 2-3 semesters (full-time)
- 4-5 semesters (part-time)

Commencement

September 2013

Credit Transfer / Exemption

If applicants have completed equivalent courses at a university level, they may be eligible to apply for credit transfer (at a maximum of 9 credit units) or exemption from some programme requirements upon admission to the University. In such cases, the standard application fee will be charged in accordance with the University's policy.

Each year, French students will join the programme at CityU.

Entrance Requirements

To be eligible for admission, the applicants must hold a first degree or a postgraduate degree in science and engineering (Mathematics, Physics, Statistics, Computer Science, Engineering etc.), or in a related discipline (Economics, Finance, and Actuarial Science), or equivalent.

Online Application

www.sgs.cityu.edu.hk/prospective/apply/procedures

Fees

Application fee: HK$300
(online application; non-refundable and to be paid at the time of application)

Tuition fee: HK$3,690 per credit unit
(subject to yearly review)

Graduation fee: HK$400

Registration fee: Approximately EURO200
(to be paid to the Université Paris-Dauphine at the beginning of Semester A of the intended final year of study)

Successful applicants will be required to pay the tuition fee for Semester A (typically 9 credit units).

Application Deadline

31 January 2013

Information Seminar

Date: 8 December 2012 (Saturday)
Time: 3:00 pm – 3:50 pm
Venue: B4302, 4/F Academic 1, City University of Hong Kong

Education Loan

Successful applicants may apply for the Government's Non-means-tested Loan Scheme. Application forms are obtainable from each District Office and the Student Financial Assistance Agency.

Enquiries: +852 2150-6222
Website: www.sfaa.gov.hk

Government's Continuing Education Fund (CEF)

A number of courses offered by the Department of Economics and Finance (EF), such as EF5052 Investment and EF5210 Option Pricing, have been specified by the Office of the Government's Continuing Education Fund as "reimbursable courses". Full details are obtainable at: www.sfaa.gov.hk/cef

Enquiries

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