INTERDISCIPLINARY MAJOR PROGRAMME IN
QUANTITATIVE FINANCE AND
RISK MANAGEMENT SCIENCE

計量金融學及風險管理科學
跨學科主修課程

4-Year Curriculum

FACULTY OF SCIENCE | 理學院
FACULTY OF BUSINESS ADMINISTRATION | 商學院
The Interdisciplinary Major Programme in Quantitative Finance and Risk Management Science (QFRM) (JUPAS Code: JS4276) is jointly administered by the Department of Finance and the Department of Statistics at the Chinese University of Hong Kong. The Programme combines the strengths and features of two well-established and highly successful programmes from the respective departments: the Quantitative Finance Programme and the Risk Management Science Programme. The QFRM programme has been admitting high-calibre students since its first intake in 2009.

As a major financial service centre, Hong Kong has a growing demand for professionals in quantitative finance and risk management science. The Programme provides state-of-the-art training in finance, risk management, mathematics and statistics, and business. By offering comprehensive academic and professional training, the Programme aims to nurture competent finance and risk management professionals.

Admission Requirements
The minimum criteria for applications are four core and one elective subjects in HKDSE with the following requirements:

- Level 3 or above in Chinese Language,
- Level 3 or above in English Language,
- Level 3 or above in Mathematics,
- Level 2 or above in Liberal Studies,
- Level 3 or above in any one elective subject.

In addition, applicants should have obtained level 3 or above in the Extended Part of Mathematics (Module 1 or 2).

Admission Statistics
QFRM is the best programme among all quantitative related programmes in Hong Kong as reflected by the admission statistics in 2012 admission (as on 31 August 2012):

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<tr>
<th>Admission Figures</th>
<th>CHIN</th>
<th>ENGL</th>
<th>MATH</th>
<th>MTH1/MTH2</th>
<th>LBST</th>
<th>Elective</th>
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PROGRAMME STRUCTURE (SUBJECT TO REVISION)

Faculty Package

- University Mathematics
- Economics for Business Studies I
- Economics for Business Studies II

Required Courses

- Computer Principles and Programming (C / C++ / Java / Visual)
- Business Information Systems / Data Structures and Applications / Concepts of Information Systems
- Financial Management
- Financial Markets
- Investment Analysis and Portfolio Management
- Risk Management and Insurance
- Linear Algebra I
- Advanced Calculus I
- Introduction to Risk Management
- Simulation Methods for Risk Management Science and Finance
- Statistical Modelling in Financial Markets
- Basic Concepts in Statistics and Probability I
- Basic Concepts in Statistics and Probability II
- Introduction to Stochastic Processes
- Applied Regression Analysis

Elective Courses

Students are required to take elective courses in four major areas: Business, Quantitative Finance, Risk Management Science and Capstone.

EXCHANGE PROGRAMMES

QFRM students are encouraged to study and experience life in prestigious universities abroad. Some of the universities that QFRM students have attended are:

**Australia**
- La Trobe University
- University of South Australia

**Canada**
- McGill University
- University of Ottawa
- University of Toronto
- York University

**China**
- Fudan University
- Nanjing University
- Peking University
- Xi'an Jiao Tong University

**Czech Republic**
- University of Economics, Prague

**Denmark**
- Technical University of Denmark

**Finland**
- University of Oulu
- University of Tampere

**France**
- Ecole des Hautes Etudes Commerciales
- TELECOM Ecole De Management

**Germany**
- Free University of Berlin

**Netherlands**
- Maastricht University
- University of Groningen

**Switzerland**
- University of St. Gallen

**UK**
- University of Glasgow
- University of Manchester

**USA**
- Lehigh University
- Miami University
- University of California
- University of Pennsylvania
- University of Southern California
- University of Texas at Austin
- University of Washington
**INTERNSHIP**

The internship programme allows students to acquire on-the-job training with participating companies. Internships provide valuable opportunities for students to gain exposure to the professional environment over and above those offered in class and related activities. QFRM students are provided with ample internship opportunities that can open up excellent career opportunities.

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**STUDENT INTERNSHIP EXPERIENCE**

**Eric Wang**

*Modeller – Modelling Department, Western Asset Management, USA; Research Analyst – Investment Management Department, Western Asset Management Singapore.*

During my internship, I worked in the modelling department at the USA headquarters of Western Asset Management, a bond power-house with US$450 billions of assets under management. Drawing on the quantitative skills and financial knowledge I had gained from the QFRM programme, I contributed to portfolio modelling and structured product modelling. After a year in the USA, I was reallocated to the Singapore office to work as a research analyst for 3 months, covering credit analysis and sovereign analysis. Apart from participating in asset allocation, I also had the opportunity to attend issuer road-shows and investor relationship meetings to obtain first-hand company credit information to back trading decisions.

The internship experience not only developed my market sense, but also polished my interpersonal skills and added variety to my undergraduate study.

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**Michael Chau**

*Summer Analyst – Asia Equity Market Risk Team, Royal Bank of Scotland (RBS).*

My duties included daily tasks and system enhancement. First, I generated and monitored the FX & IR and Total Asia Equity Risk reports on a T-1 basis, reporting the significant changes in risk exposures to risk managers to ensure local or global limits were not breached. Second, I streamlined and re-engineered the risk report templates to make them more user-friendly and efficient. Sometimes I communicated with the Singapore Reporting Team to reconcile the data in the weekly report. Through the internship opportunity, I learned more about how risk measures such as Delta, Gamma, PV01 and CR01 are actually used in the industry, which was a really valuable experience for me.

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**Phillip Wong**

*Intern – Global Investment Research Division, Goldman Sachs (Asia) LLC.*

Before graduation, I took a one-year internship in the Global Investment Research Division at Goldman Sachs. I was involved in a project that aimed to build a model to connect the macro-economic environment and business cycle with stock implementation. The coursework at CUHK had equipped me with the necessary quantitative skill set for building such a quantitative model. However, what I found most inspiring was the constant discussion with senior members of the team on ways to improve the model and make it more suitable for investors' needs.

The internship also gave me a very good opportunity to improve my time management skills and boost my work efficiency by setting clear goals and prioritising tasks, which is not as easy as I once thought. Overall, this was a fantastic experience that helped me to identify my strengths and weaknesses and to develop longer-term career goals.

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**Robin Zhao**

*Summer Analyst – Investment Banking Department, Barclays Capital.*

I am currently working as a summer analyst as a member of the M&A team in the Investment Banking Department at Barclays. Although the job is demanding, I am doing what I enjoy, so I don't get tired at all. It is an amazing experience, and I am surprised by how much I have learnt throughout this summer. As a QFRM student, you not only have rich exposure to the world of finance, but you are also equipped with the essential technical risk management tools. This unique mixture prepares you for a wide range of opportunities.

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