Formed in August 2006 in conjunction with the launch of the undergraduate Quantitative Finance Programme at Singapore Management University (SMU), Q.E.D. Quantitative Finance Society is a student-run society. Our objectives include inculcating a sense of belonging among Quantitative Finance majors, as well as promoting the knowledge of financial engineering and computational finance to interested members of the University.

Q.E.D. stands for "Quod Erat Demonstrandum," a Latin phrase commonly used at the end of a mathematical proof, to claim that a proposition has been definitely proven, or Quite Easily Derived.

Our core business lies in organising seminars and talks by industry professionals, special projects that seek to raise the awareness of quantitative finance, and networking sessions that offer opportunities for students to meet up with industry leaders. We had organised seminars by Dr Paul Wilmott, a prolific and world-renowned author of the Wilmott Series of Quantitative Finance books, senior industry leaders from companies such as the Government of Singapore Investment Corporation (GIC), as well as a host of other computing workshops aimed at offering SMU students a glimpse into computer programming with financial applications. Our activities provide a real value add for all Quantitative Finance majors.

Quantitative Finance, as an academic discipline, is a burgeoning field with exciting opportunities. We hope that as a student society promoting the spread of this new field of study, we can provide an enriching, refreshing, and rewarding experience for all interested students.

**Mission**

The aim of the undergraduate Quantitative Finance (QF) Programme is to develop several core competencies in students majoring in QF, which include:

- a good understanding of investment opportunities and risks in the capital markets;
- a strong foundation of mathematical and computing skills;
- adequate background to pursue post-graduate studies in QF;

The programme fosters an entrepreneurial perspective through regular industry seminars in derivatives, structured products, quantitative trading, risk management, portfolio & funds management, and software solutions.
About Quantitative Finance

In simple terms, Quantitative Finance is about managing money using a scientific approach – well that is just the idea.

In a world that is increasingly driven by technology, in which superior knowledge and efficiency provide a competitive advantage, managing money is not such a simple business anymore.

Understanding innovations in finance requires a good command of quantitative skills which our Quantitative Finance programme aims to impart.

Here are some key concerns of Quantitative Finance:

Financial Derivatives

Ever wonder why the largest dollar amount of trades sloshing around the global financial markets is not in equity, nor in bonds, but in Financial Derivatives?

Curious why Financial Derivatives is both the panacea for buyers and sellers in mitigating financial risks due to unforeseeable future, and the catalyst for disaster when misused?

Modelling Rates and Prices in Finance

Financial derivatives are financial products, like insurance policies, that cost money to buy.

Good mathematical models of interest rates or stock prices are used to get the prices of financial derivatives right. Rigorous statistical models are used to test the models.

Risk Management

What is risk and how do we measure it? How to tell whether an investment is too risky or just right? How to assess the level of risk a bank is facing?

Fast-Track Link to Master of Science in Quantitative Finance (MQF)

SMU has launched a joint master degree programme with Cass Business School, City University London. This postgraduate programme in Quantitative Finance by coursework is offered to outstanding QF undergraduates through direct admission. The fast-track link to our MQF programme makes it possible for students majoring in QF to obtain a master degree in four years.

For more details about the MQF programme, please visit [http://www.business.smu.edu.sg/mscqf/](http://www.business.smu.edu.sg/mscqf/)

## Quantitative Finance Jobs

What are some jobs that a QF major can do?

**Quantitative Strategist or Modeller**: Apply quantitative models to analyse, price and hedge a whole range of financial instruments from the vanilla to the exotic.

**Structurer**: Package financial assets and derivatives into structured products to suit specific investment needs of companies and individuals.

**Derivative Trader**: Trade financial derivatives.

**Risk Manager**: Monitor and manage financial-related risks, advise the management on the level of risk and recommend mitigative course of actions.

**Fund Manager**: Manage funds of investors through intelligent investment in portfolio of financial assets.

**Financial Analyst**: Perform rigorous data research and statistical model testing to support projections of financial trends and volatilities.

Who hire quants, structurers, derivative traders, risk managers or analysts?

- Investment banks, commercial banks, asset management companies, financial IT firms, consultancies, investment research/advisory firms, insurance companies, exchanges, regulators, brokerages, financial data providers and oil companies.

### Programme

ACCT101 - Financial Accounting
ACCT102 - Management Accounting
FNCE101 - Finance

These courses are Business Core modules that provide the background context for Quantitative Finance.

STAT101/151 - Introductory Statistics/ Introduction to Statistical Theory
QF201 - Linear Algebra and Regression
QF202 - Differential Equations
QF203 - Real Analysis
QF206 - Quantitative Trading Strategies

Select one of

QF204 - Probability and Finance Theory or
STAT306 - Applied Stochastic Models or
STAT311 - Risk Theory and Loss Models
STAT314 - Statistical Methods for Actuarial Analysis

Select one of

QF205 - Computing Technology for Finance or
IS200 - IS Software Foundations or
IS202 - Data Management or
IS201 - Object Oriented Application Development or
IS203 - Software Engineering

These courses build a repertoire of quantitative techniques and analytical skills for approaching and solving increasingly complex quantitative problems in finance.

QF301 - Structured Finance
QF302 - Investment and Financial Data Analysis
QF303 - Stochastic Calculus and Finance Theory
QF304 - Numerical Methods
QF305 - Global Financial Risk Management

These are the highlight courses of the Quantitative Finance major which comprise foundational topics and current issues in Quantitative Finance.

Computer laboratory work (MATLAB, Excel VBA, etc) is built into the syllabus to equip students with practical model implementation skills.

For course advisory on the QF major, please contact:

Ms Koh Puay Ling
Administrative Manager, QFU
Lee Kong Chian School of Business
Singapore Management University
50 Stamford Road
Singapore 178899
Tel: 65-6828 0889

For more details, please refer to: