

Annexure 8

CQF- CERTIFICATE IN QUANTITATIVE FINANCE USA

Certificate in Quantitative Finance (CQF)

The world's largest professional qualification in quantitative finance

The Certificate in Quantitative Finance (CQF) is designed to transform your career by equipping you with the specialist quant skills essential to success. That's why the emphasis is on teaching current, real-world techniques you can apply with confidence from the moment you learn them.

Practical and flexible curriculum

The CQF qualification is made up of six modules and Advanced Electives. Modules two, three, and four are examined. At the end of module six, you will complete a practical capstone project, applying your knowledge to solve real-world problems.

Our advanced electives offer you the opportunity to specialize further, allowing you to develop your skills with your specific career objectives in mind.

You can follow the full program or take Level I and Level II in separate cohorts to achieve the qualification.

Option 1 - Full Program

The program can be taken in full by completing the six modules and two chosen electives in six months. This option provides you with instant access to all the materials and to Lifelong Learning.

Option 2 - Level I & II

Level I is comprised of modules one to three and your first two exams. Level II consists of modules 4 through 6, your last exam and final project, chosen electives and Lifelong Learning.

Level 1

Module 1 - Building Blocks of Quantitative Finance >

In module one, we will introduce you to the rules of applied Itô calculus as a modeling framework. You will build tools using both stochastic calculus and martingale theory and learn how to use simple stochastic differential equations and their associated Fokker- Planck and Kolmogorov equations.

Module 2 - Quantitative Risk & Return >

In module two, you will learn about the classical portfolio theory of Markowitz, the capital asset pricing model and recent developments of these theories. We will investigate quantitative risk and return, looking at econometric models such as the ARCH framework and risk management metrics such as VaR and how they are used in the industry.

Module 3 - Equities & Currencies >

In module three, we will explore the importance of the Black-Scholes theory as a theoretical and practical pricing model which is built on the principles of delta hedging and no arbitrage. You will learn about the theory and results in the context of equities and currencies using different kinds of mathematics to make you familiar with techniques in current use.

Level 2

Module 4 - Data Science & Machine Learning I >

In module four, you will be introduced to the latest data science and machine learning techniques used in finance. Starting with a comprehensive overview of the topic, you will learn essential mathematical tools followed by a deep dive into the topic of supervised learning, including regression methods, k-nearest

neighbors, support vector machines, ensemble methods and many more.

Module 5 - Data Science & Machine Learning II >

In module five, you will learn several more methods used for machine learning in finance. Starting with unsupervised learning, deep learning and neural networks, we will move into natural language processing and reinforcement learning. You will study the theoretical framework, but more importantly, analyze practical case studies exploring how these techniques are used within finance.

Module 6 - Fixed Income & Credit >

In the first part of module six, we will review the multitude of interest rate models used within the industry, focusing on the implementation and limitations of each model. In the second part, you will learn about credit and how credit risk models are used in quant finance, including structural, reduced form as well as copula models.

Advanced Electives >

Your advanced electives are the final element in our core program. These give you the opportunity to explore an area that's most relevant or interesting to you. Select two electives from the extensive choice below to complete the CQF qualification. You will also have access to every advanced elective as part of the Lifelong Learning library.

Quant finance for today's markets

The need for quant finance expertise is ever-widening, so we've designed the CQF for ambitious professionals from a spectrum of backgrounds. CQF delegates come from a wide range of positions within the markets and a variety of academic backgrounds, including finance, economics, business, engineering and the sciences.

The CQF is for anyone who wants an efficient and cost effective way to develop practical mastery of quant finance and machine learning, while also earning a globally recognized qualification. The CQF is especially relevant for professionals working or planning to move into one of the following areas.

Occupation

Quantitative Analysis

Data Science

Risk Management

Information Technology

Analytics

Consulting

Derivatives

Actuary

Hedge Funds

Trading

Fund Management

Asset Management

Student

Structuring

Insurance

Quantitative Trading

Valuation

Quantitative Research

Derivatives

Model Validation

BUILD YOUR CAREER

BE WISE

BE RICH.

THANK YOU

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