



## Introduction to Financial Engineering

The current globalization trends in all financial markets call for customized answers for each type of client. Financial Engineering is a newly created discipline among both practitioners and academics that tackles that requirement. Using as building blocks the tools of risk management, derivatives, product structuring, statistics and financial institutions, we will develop a framework for designing and implementing tailor made instruments and solutions through an exciting creative process.

### Available Session(s):

10-NOV-2008 -- 12-NOV-2008 New York  
NY Institute of Finance - 9:00am - 4:30pm  
Midtown  
Instructor(s):[Jorge A. Martínez-Gonzalez; ]

USD \$3275  
Mon Tue Wed

### Targeted Audience

Risk managers, corporate treasurers, fund managers, sell side analysts and vendors, financial advisors, capital and fixed income markets specialists and risk auditors.

### Special Offer

Clients who register for this course will receive a complimentary 6 month subscription to the Financial Times and FT.com. The Financial Times is the world's most respected financial newspaper providing a broad assessment on finance, business and the industrial sector. Subscriptions will start within 6-8 weeks of the application process, and are limited to one per client. For questions about your subscriptions call 800-628-8088 or email [uscirculation@ft.com](mailto:uscirculation@ft.com). US and Canada enrollees only.

### Advance Preparation

No advance preparation required.

### Prerequisites

Attendees must have a solid knowledge of basic financial theories. Including: NYIF Fixed Income Suite, Overview of Capital Markets and Fundamentals of Derivatives or equivalent knowledge.

## Learning Objectives

Students will be able to:

- Demonstrate solid understanding of the basic theories behind modern finance
- Discuss fluently upon the building blocks of financial instrument design
- Have the skill to build and to judge if buying, or criticize if selling, a tailor-made financial instrument

## Follow-Up Courses

Credit Default Swaps: From Vanilla to Exotic

Derivatives Suite: Strategies, Trading & Valuation

**Level:** Basic

**CPE Credits:** 21.5

**Instructional Method:** Group-Live

## Detailed Outline

### Day 1 - The Basic Building Blocks of Financial Engineering

#### Traditional Financial Instruments Vs Derivatives

- The basic theoretical framework in modern finance
- The fundamentals of design behind the universe of financial instruments
- The fundamentals of design behind the universe of derivatives

#### Statistical Models to Measure Risk in New Instruments

- Review of basic and intermediate statistical measures of risk
- Advance models of volatility and credit risk for new instruments
- The risk profile of a new tailor-made instrument

### Day 2 - The Creative Process of Building New Instruments

#### The Study of Complex Structures

- The main relations inside and around a Trust as a legal figure
- The method of re-packaging cash flows
- The insertion of derivatives into a complex financial structures

#### The Assembly of Exotics and Hybrids

- Review of the main building blocks inside exotic instruments and contracts with special clauses
- Hybrids of fixed income and capital components
- Hybrids of fixed income and commodity components

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### Day 3 - The Financial Engineering Solution Mapped on the Global Financial Strategy of the Firm

### **Financial Engineering Designing Lab**

- Group session aimed at judging a tailor-made financial instrument from the buy-side
- Group session aimed at criticizing a tailor-made financial instrument from the sell-side
- Live team-work exercise aimed at designing a tailor-made instrument to solve a proposed problem

### **Financial Strategy Impact of Tailor-made Instruments**

- Modeling competing strategies to find the most efficient solution using Montecarlo Simulations
- Expected impact on cash flow, return and P/L of a hedging strategy
- How does the financial engineering solution fit into the broad financial strategy of the firm?

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