



# Analyst Training Programme

**Sample outline**

## **Aims**

This two week training course covers the main financial markets. A traditional graduate programme will focus on products rather than markets, which we believe is not the optimum solution. So while one module may cover all aspects of swaps, it may cover many different asset classes with the result that the course does not “flow” and runs the risk of becoming very disjointed. We favour an alternative approach where the product fundamentals are covered in the first week followed by detailed coverage of individual markets.

The main areas of Equity, Debt, Derivatives, Commodities and Foreign Exchange are covered, using a highly practical approach. The training provides a robust foundation of knowledge that is required for a solid grounding in this industry.

The course will address all sections to help understand the linkage of different areas of the Bank, and how important it is to understand different aspects of the Bank’s business.

## Course Overview

	Day 1	Day 2	Day 3	Day 4	Day 5
<b>Week 1</b> <b>Concepts</b>	<ul style="list-style-type: none"> <li>• Intro to Investment Banking</li> <li>• The supply and demand for credit</li> </ul>	<ul style="list-style-type: none"> <li>• Government and corporate bond markets</li> <li>• Equity markets</li> </ul>	<ul style="list-style-type: none"> <li>• Foreign Exchange - spot and forward markets</li> <li>• Commodities - metals, energy, agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• Basics of forwards</li> <li>• Basics of swaps</li> </ul>	<ul style="list-style-type: none"> <li>• Basics of options</li> </ul>
	Day 6	Day 7	Day 8	Day 9	Day 10
<b>Week 2</b> <b>Fixed Income</b>	<ul style="list-style-type: none"> <li>• Fixed income markets</li> </ul>	<ul style="list-style-type: none"> <li>• Fixed income markets</li> </ul>	<ul style="list-style-type: none"> <li>• Traded credit markets</li> </ul>	<ul style="list-style-type: none"> <li>• Equity derivative markets</li> </ul>	<ul style="list-style-type: none"> <li>• Commodity investment structures</li> </ul>

## Detailed Outlines

### Day 1: Introduction to investment banking

#### Introduction to Investment Banking

- What does an Investment Bank do?
- How do the departments interact?

#### The supply and demand for credit

- Understanding the demand for credit
  - Corporate capital structures
- Understanding the supply of credit
  - Real money vs. leveraged accounts

#### Client profiles

- Corporates
- Commercial banks
- Central banks
- Investment banks
- Pension funds
- Mutual funds
- Hedge funds
- Insurance companies

*Case study: Client risk management*

## Day 2: Bond and equity markets

### Bond markets

- What is a bond?
  - Features of a bond: nominal, price, yield, redemption
  - Defining credit risk
  - Government bond markets
  - Issuance process
  - STRIPS
  - Inflation linked securities
- Corporate bond markets
  - Issuance process
  - Rating agencies
  - Variations on vanilla bonds
  - Convertibles
  - Callable

*Case study: Analysing the bond issuance process*

### Equity

- What is Equity
  - Understanding the product and key terms
  - Different types of equity
  - The major players in the Equity world
  - The key roles in equity at an Investment Bank

### The Primary Market

- IPOs
- Major Trades - Block trades and AEOs
- Rights issues

*Case study: the anatomy of an IPO*

### The Secondary Market

- Stock Exchanges around the world
- Indices

### Corporate equity activity

- Share price dilution
- Share buybacks
- ESOPs

*Case study: understanding share price dilution*

## Day 3: Foreign Exchange and commodity markets

### Foreign Exchange

- The Market - characteristics and terminology
  - Locations
  - Participants
  - Motivation
  - Popular currency pairs
- The Spot Market
  - Interpretation of quotation
  - Market making vs. price taking
- The Forward Market
  - Deriving a forward quotation
  - Methods of quoting forward FX
  - Trading forward FX

*Case studies: interpreting spot quotations  
Derivation of a forward FX quotation*

### Commodities

- Segments of the commodity market
  - Metals
  - Energy
  - Agriculture
  - “Others” (i.e. emission markets)
- Major commodity themes
  - Regulation
  - Quality
  - Pricing (contango and backwardation)
- Why commodities are forward markets

*Case study: Pricing of commodities*

## Day 4: Forwards and Swaps

### Forwards

- Defining forwards
  - Why forwards are not forecasts
  - Pricing forward contracts (equity, commodities)
  - Cash and carry principles
  - Convenience yield
- Applications of forwards
  - Futures vs. forwards
- Features of futures contracts
  - Role of the exchange
  - Margining provisions
  - Variation vs. initial margins
- Interest rate forwards (forward rate agreements)
- Short term interest rate futures

*Case studies: Index arbitrage  
Using forwards to hedge an underlying exposure  
Using forwards to express a view on potential market  
movements*

### Swaps

- Basic principles of swaps
  - Key terminology
  - Quoting conventions
- Simple applications of swaps (asset and liability structures)
- Interest rate quoting conventions and conversions
  - Annual vs. annual
  - Money market vs. bond equivalent yield
- Swap valuation
  - Forward rates
  - Zero coupon rates
  - Discount factors
  - Zero coupon valuation techniques

*Case studies: Swap applications  
Interest rate conversions*

## Day 5: Options

### Options

- Understanding the basic option terminology
  - Calls / puts
  - Strike price
  - American / European
  - ITM / OTM / ATM
- Applications of options
  - Comparison to forwards
  - Single option strategies
  - Buy / sell, call /put
- Premium reduction strategies
  - zero cost collar, participations

*Case study: applications of options*

### Valuation

- The intuition behind closed form and binomial pricing solutions
  - The role of a pricing model
- Market factors that influence the value of an option
  - underlying price
  - time
  - volatility

*Case study: Principles of option valuation*

### Option risk management

- Defining and interpreting the main option Greeks
  - Delta
  - Gamma
  - Vega
  - Rho
  - Theta

*Case study: Managing delta and gamma*



## Day 6: Fixed Income analysis

### Pricing bonds

- Pricing bonds
  - Conventional methods
  - Yield to maturity
  - Limitations of yield to maturity - reinvestment risk

*Case study: pricing bonds*

### Yield curve analysis

- Yield curve construction
  - Par curves
  - Zero curves
  - Forward curves
  - Discount factors
- Sources of rates
  - Deposits
  - Futures
  - Convexity adjustments
  - Swaps

- Pricing bonds revisited
- Zero coupon pricing methods

*Case study: constructing a yield curve*

### Market risk

- Macaulay Duration
- Modified duration
- DV01
- Convexity

*Case study: calculating bond market risk*

### Forward pricing of bonds

- Deriving the forward price of a bond
- OTC vs. bond futures
- Factors that drive the forward price
- How forward prices determine the appropriate fixed income strategy

*Case study: Using forward rates to select the appropriate fixed income strategy*

## Day 7: Fixed income analysis

### Forward pricing of bonds

- Deriving the forward price of a bond
- OTC vs. bond futures
- Factors that drive the forward price
- How forward prices determine the appropriate fixed income strategy

*Case study: Using forward rates to select the appropriate fixed income strategy*

### Swap valuation and market risk

- Swap valuation
  - Forward rates
  - Zero coupon rates
  - Discount factors
  - Zero coupon valuation techniques

*Case study: identifying value in a fixed income context*

### Fixed income trading strategies:

- Defining roll down
- Defining carry
- Fixed income strategies
- Fixed income strategies bonds vs. swaps
- Example strategies to illustrate

### Fixed income volatility

- Trading volatility
  - Volatility revisited
  - Smiles vs. skews
  - Fat tails vs. hedging vega and gamma
  - Trading vol using caps, floors and swaptions
- Directional strategies
- Volatility strategies
- Correlation between caps, floors and swaptions
  - The volatility “wedge”

*Trading swap spreads in spot or forward space  
Trading volatility using options*

## Day 8: Credit default swaps

### Subordination

- Ranking of creditors
  - Structural Subordination
  - Intercompany Loans
  - Guarantees
- Recovery Rates

*Case study: structural subordination*

### Features of CDS

- Key terminology
- Single name and index CDS
- Analysing a CDS transaction (reference entity, reference obligation, events of default)

*Case study: analysing a single name CDS*

### CDS valuation

- Calculating credit risky DV01 and PV01
- Valuation of CDS
- Mathematical models
- Proxy valuation

*Case study: Pricing a single name CDS*

### CDS trading strategies

- Roll down and carry
- Forward spreads
- DV01 neutrality
- Spot starting strategies
- Curvature trades
- Forward starting strategies

*Case study: CDS trading strategies*

## Day 9: Equity Derivatives

### Real money accounts

- Typical usage of options by fund managers
  - Protective puts
  - Covered calls
- Introducing barrier options
  - Deriving 16 different barrier payoffs
  - Pricing of barriers
  - How barriers alter the payoff structure

*Case study: Using index options within a portfolio context*

### Retail market participants

- Capital guaranteed products
  - Increasing the participation rate by altering the nature of the embedded option
  - Asian options
  - Basket options
  - Barrier options
  - Buying and selling options
- Reverse convertibles
  - Vanilla structures
  - Adding a barrier option

*Case studies: capital guaranteed notes - improving the participation rate offered to investors*  
*Reverse convertibles*

### Leveraged accounts

- Equity swaps
- Dividend swaps
- Trading volatility using options
- Trading volatility using variance swaps
- Correlation in the equity markets
- Dispersion trades

*Case studies: Equity related swaps*

## Day 10: Investing in Commodities

### Pricing of commodities

- A review of pricing principles
- Forward curves - contango and backwardation

### Index - linked structures

- Different commodity indices
- Sources of profitability - the roll yield
- Second generation index structures
- Smart roll yield strategies

*Case study: Index investing using the S&P GSCI*

### Exchange traded products

- Exchange traded funds
- Exchange traded notes

*Case study: Exchange traded notes*

### Structured products

- Capital guaranteed structures
- Leveraged structures
- Dispersion trading

*Case study: Capital guaranteed structures*