
# Bonds Workshop

AFMT
Financial Markets Training

# Course Content

## Bond Valuation and Risk Factors

- Types of Bond and the capital markets.
- Bond cashflows and present value methodologies
- Basic bond pricing
- The price yield relationship and curvature
- Accrued interest
- Bond pricing between coupon dates
- Excel bond functions: PRICE, YIELD, ACCRINT
- Re-investment risk and Macaulay duration
- Using Modified and Dollar Durations, DV01, PVBP
- The Convexity adjustment
- Bond portfolio duration and convexity management

Bond pricing workshop

## Yield Curves and the Term Structure of Interest Rates

- Yield curve definitions and examples
- Theories of the Term structure of interest rates
- STRIPS and Zero curves
- Constructing Zero curves
    - Bootstrapping zero rates using coupon bonds and swaps
- Forward rates and the forward curve
    - Calculating the forward curve using discount factors
- Bond pricing using forward rates

Zero and forward curve construction workshop

## Credit Analysis

- Types of credit risk
- The Corporate bond market
- Credit rating agencies and rating methodologies
- High yield bonds
- Sovereign bond spreads
- Components of credit analysis

## Valuation of Bonds with Embedded Options

- Callable and Puttable bonds
- Traditional valuation methods
    - Yield to call
    - Yield to workout
    - Yield to worst
- Valuing bonds using binomial trees
- Short rate volatility
- The Z spread and Option Adjusted Spread (OAS)
- Effective Duration and Convexity for bond with embedded optionality
- Introduction to convertible bonds

Callable bond price modeling workshop