

Derivatives

Module 1: Derivative Markets and Instruments

- 1 Learning how to define a derivative and differentiate between exchange-traded and over-the-counter derivatives.
- 2 Learning how to define a forward commitment and a contingent claim.
- 3 Learning how to differentiate among the forward contracts, futures contracts, options (calls and puts) and swaps.
- 4 Discussing the purpose and criticisms of derivative markets.
- 5 Explaining arbitrage and the role it plays in determining prices and promoting market efficiency.

Module 2: Forward Markets and Contracts

- 1 Learning how to explain delivery/settlement and default risk for both long and short positions in a forward contract.
- 2 Learning how to describe the procedures for settling a forward contract at expiration and discuss how termination alternatives prior to expiration can affect credit risk.
- 3 Learning how to differentiate between a dealer and an end user of a forward contract.
- 4 Learning how to describe the characteristics of equity forward contracts and forward contracts on zero-coupon and coupon bonds.
- 5 Learning how to describe the characteristics of the Eurodollar time deposit market, and define LIBOR and Euribor.
- 6 Learning how to describe the characteristics and calculate the gain/loss of forward rate agreements (FRAs).
- 7 Learning how to calculate and interpret the payoff of an FRA and explain each of the component terms.

- 8 Learning how to describe the characteristics of currency forward contracts.

Module 3: Futures Markets and Contracts

- 1 Learning how to describe the characteristics of futures contracts.
- 2 Learning how to distinguish between futures contracts and forward contracts.
- 3 Learning how to differentiate between margin in the securities markets and margin in the futures markets, and explain the role of initial margin, maintenance margin, variation margin, and settlement in futures trading.
- 4 Learning how to describe price limits and the process of marking to market and calculate and interpret the margin balance, given the previous day's balance and the change in the futures price.
- 5 Learning to describe how a futures contract can be terminated at or prior to expiration.
- 6 Learning how to describe the characteristics of the following types of futures contracts: Treasury bill, Eurodollar, Treasury bond, stock index, and currency.

Module 4: Option Markets and Contracts

- 1 Learning how to describe call and put options.
- 2 Learning how to distinguish between European and American options.
- 3 Learning how to define the concept of moneyness of an option.
- 4 Learning how to differentiate between exchange-traded options and over-the-counter options.
- 5 Learning how to identify the types of options in terms of the underlying instruments.
- 6 Learning how to compare and contrast interest rate options with forward rate agreements (FRAs).
- 7 Learning how to define interest rate caps, floors and collars.

- 8 Learning how to calculate and interpret option payoffs and explain how interest rate options differ from other types of options.
- 9 Learning how to define intrinsic value and time value and explain their relationship.
- 10 Learning how to determine the minimum and maximum values of European options and American options.
- 11 Learning how to calculate and interpret the lowest prices of European and American calls and puts based on the rules for minimum values and lower bounds.
- 12 Learning how to explain how option prices are affected by the exercise price and the time to expiration.
- 13 Learning how to explain put–call parity for European options and relate put–call parity to arbitrage and the construction of synthetic options.
- 14 Learning how to contrast American options with European options in terms of the lower bounds on option prices and the possibility of early exercise.
- 15 Learning how to explain how cash flows on the underlying asset affect put–call parity and the lower bounds of option prices.
- 16 Learning how to indicate the directional effect of an interest rate change or volatility change on an option's price.

Module 5: Swap Markets and Contracts

- 1 Learning how to describe the characteristics of swap contracts and explain how swaps are terminated.
- 2 Learning how to define, calculate and interpret the payments of currency swaps, plain vanilla interest rate swaps and equity swaps.

Module 6: Risk Management Applications of Option Strategies

- 1 Learning how to determine the value at expiration, the profit, maximum profit, maximum loss, breakeven underlying price at expiration, and general shape of the graph of the strategies of buying and selling calls and puts, and indicate the market outlook of investors using these strategies.
- 2 Learning how to determine the value at expiration, profit, maximum profit, maximum loss, breakeven underlying price at expiration, and general shape of the graph of a covered call strategy and a protective put strategy, and explain the risk management application of each strategy.