

## Fourth Exam Topic List

Duration, Volatility, and Convexity – How is each computed – How is each interpreted  
Redington Immunization – What must be checked – What does it ensure  
Complete Immunization - What does this mean

Derivatives – What are they – Why are they used  
Payoff Function and Profit Function – What is the difference between them  
Forward Contract / Call Option / Put Option / Own Asset / Borrow Asset - What is each of these – What is the payoff function for each

Agreement combinations – Be able to form combined payoff and profit functions from individual payoffs – Know the shapes and purposes of : Covered Call / Bull Spread / Bear Spread / Box Spread / Ratio Spread / Collar / Straddle / Strangle / Butterfly Spread – Zero cost position in a combination

Pricing Issues:

Put / Call Parity – Compute a solution with this  
Black–Scholes Formula (only need to know what it provides)  
Forward Contracts and Prepaid Forward Contracts – Compute a solution with these  
Futures Contract – What is it – How is it priced  
Swaps (commodity and interest rates) How is it priced - Compute a solution with this

Rate Relationships:

Spot Rates / One-Year Forward Rates / Zero Coupon n-Year Bond Price (price today of a zero coupon bond redemption value of 1 at time n) / - Be able to find each of the other two sets if given one set of these rates