Assignment of Session 5:

1. A bank has the following transaction with an AA-rated corporation:

a) A two-year interest rate swap with a principal of $200 million that is worth $5 million
b) A nine-month foreign exchange forward contract with a principal of $300 million that is worth -$10 million
c) A long position in a six-month option on gold, with a principal of $100 million that is worth $10 million

What is the capital requirement under Basel I if there is no netting? What difference does it make if the netting amendment applies? What is the capital required under Basel II when the standardized approach is used?

2. Suppose that the assets of a bank consist of $500 million of loans to A-rated corporations. The PD for the corporations is estimated as 0.2%. The average maturity is three years and the LGD is 50%. What are the risk-weighted assets for credit risk under the Basel II IRB approach? What are the Tier 1 and Tier 2 capital requirement? How does this compare with the capital required under the Basel II standardized approach and under Basel I?

3. *A bank has the following balance sheet*

Cash	2	Retail Deposits (stable)	35
Treasury Bonds (>1 year)	2	Retail Deposits (less stable)	25
Corporate Bonds Rated AA	2	Wholesale Deposits	24
Residential Mortgages	4	Preferred Stock (> 1 yr)	4
Small Business Loans (<1 yr)	10	Tier 2 capital	3
Fixed Assets	80	Tier 1 Capiral	9
	100		100

(a) What is the Net Stable Funding Ratio?
(b) The bank decides to satisfy Basel III by raising more stable retail deposits and keeping the proceeds in Treasury bonds. How much extra retail deposits need to be raised?