Financial Management
Formula Sheet – Seminar 1

Compounding Periods and Interest Rates

$$R = \left(1 + {}^{i}/_{n}\right)^{n} \text{-1}$$

Where,
R is the effective annual rate, ***i*** the nominal rate, and ***n*** the number of compounding periods per year (for example, 12 for monthly compounding)

Present Value of a Lump Sum

$$PV = \frac{C}{(1+i)^{t}}$$

Where,
C is the future amount of money that must be discounted, t is the number of compounding periods between the present date and the date where the sum is worth ***C***, ***i*** is the interest rate for one compounding period (the end of a compounding period is when interest is applied, for example, annually, semi-annually, quarterly, monthly, daily).
The interest rate, ***i***, is given as a percentage, but expressed as a decimal in this formula.

Present value factor: $v^{n} = (1+i)^{-t}$

Future value

$$FV = PV \times (1+i)^{t}$$

Where,
Where ***PV*** is the present value, ***t*** is the number of compounding periods (not necessarily an integer), and ***i*** is the interest rate for that period.

Present Value of Ordinary Annuity

$$PV_{OA} = C \times \left[\frac{1-(1+i)^{-n}}{i}\right]$$

Where,
C is the cash flow per period, ***i*** is the interest rate and ***n*** is the number of payments

Annuity Due

$$PV_{OA} = C \times \left[\frac{1-(1+i)^{-n}}{i}\right] \times (1+i)$$

Where,
C is the cash flow per period, ***i*** is the interest rate and ***n*** is the number of payments