FORMULA SHEET ECON715 MIDTERM

$$(1+R)^T = \frac{\text{Face Value}}{\text{Price}} \quad (1)$$

$$1 + f_{t-1,t} = \frac{(1+\text{Yield}_t)^t}{(1+\text{Yield}_{t-1})^{t-1}} \quad (2)$$

$$PV = \frac{FV}{(1+i)^N} \quad (3)$$

$$FV = PV\,(1+i)^N \quad (4)$$

$$PV_A = \sum_{t=1}^{N} \frac{PMT_t}{(1+i)^t} \quad (5)$$

$$FV_A = \sum_{t=1}^{N} PMT_t\,(1+i)^{N-t} \quad (6)$$

$$-PMT = \left(PV(1+i)^N + FV\right)\left(\frac{i}{(1+i)^N - 1}\right) \quad (7)$$

$$PV_p = \frac{PMT}{i} \quad (8)$$

$$EAR = \left(1 + \frac{i}{m}\right)^m - 1 \quad (9)$$

$$\lim_{m \to \infty} = FV_N = PVe^{iN} \quad (10)$$

$$\text{Geometric Mean: } \frac{e^{\sum_{t=1}^{N} \ln(\text{annual rates of return})}}{N} \quad (11)$$

$$\hat{r}_i = r_{RF} + \beta_i\left[\hat{r}_M - r_{RF}\right] \quad (12)$$

$$\hat{r}_p = r_{RF} + \left[\frac{\hat{r}_M - r_{RF}}{\sigma_M}\right]\sigma_p \quad (13)$$

$$\sigma_i = \sqrt{\sum_{i=1}^{N} (r_i - \hat{r}_i)^2 P_i} \quad (14)$$

$$\sigma_p = \sqrt{w_A^2\sigma_A^2 + (1-w_A)^2\sigma_B^2 + 2w_A(1-w_A)\rho_{AB}\sigma_A\sigma_B} \quad (15)$$