Table 3: Rating system

★★★★★	Essential—appears repeatedly on every exam
★★★★	Important—appears on every exam
★★★	Average importance—regularly appears on exams
★★	Not so important—appears occasionally on exams, or easy to derive as needed
★	Obscure—on syllabus, but unlikely to appear on exam. Sometimes this indicates a formula not covered by all the reading options. No released exam uses this formula or concept, and students have never reported a question from an unreleased exam requiring this formula or concept.

★★★★★

General put-call parity equation (time 0 to time T) for European options

13F

Put-Call Parity ★★★★★

$$C(K,T) - P(K,T) = e^{-rT}(F_{0,T} - K)$$

★★★★

$T-t$ prepaid forward price at time t of nondividend-paying stock

Put-Call Parity ★★★★

$$F^P_{t,T}(S) = S_t$$

★★★★

$T-t$ prepaid forward price at time t of stock with discrete dividends

15F

Put-Call Parity ★★★★

$$F^P_{t,T}(S) = S_t - \text{PV}_{t,T}(\textit{Dividends})$$

★★★★

$T-t$ prepaid forward price at time t of stock with continuous dividends at rate δ

Put-Call Parity ★★★★

$$F^P_{t,T}(S) = S_t e^{-\delta(T-t)}$$

★★★★

$T-t$ prepaid forward price at time t of currency, if domestic continuously compounded risk-free interest rate is r_d and foreign continuously compounded risk-free interest rate is r_f

Put-Call Parity ★★★★

$$F^{P}_{t,T}(x) = x_t e^{-r_f(T-t)}$$

★★

Definition of Q_H, Q_L, U_H, U_L in context of utility

- *U_H and U_L are utilities—the value of \$1 paid at the end of a year in the high state and low state.*
- *Q_H and Q_L are the prices of securities that pay \$1 at the end of a year in the high state and in the low state*

★★

Relationship between Q_H and U_H, and between Q_L and U_L, in utility context

$$Q_H = p\,U_H$$
$$Q_L = (1-p)U_L$$

★★★★★

General form of Black-Scholes formula

$$C(S,K,\sigma,r,t,\delta) = F^P(S)N(d_1) - F^P(K)N(d_2)$$

where

$$d_1 = \frac{\ln\left(F^P(S) \Big/ F^P(K)\right) + \frac{1}{2}\sigma^2 t}{\sigma\sqrt{t}}$$

$$d_2 = d_1 - \sigma\sqrt{t}$$

★★★

Direct formula for d_2 (without calculating d_1)

Black-Scholes Formula ★★★

$$d_2 = \frac{\ln\left(F^P(S) \Big/ F^P(K)\right) - \frac{1}{2}\sigma^2 t}{\sigma\sqrt{t}}$$

Lesson 9, page 181, formula (9.2) 97B

★★★★★

Black-Scholes formula for European call options on stock with continuous dividends

98F

$$C(S,K,\sigma,r,t,\delta) = Se^{-\delta t}N(d_1) - Ke^{-rt}N(d_2)$$

where

$$d_1 = \frac{\ln(S/K) + \left(r - \delta + \frac{1}{2}\sigma^2\right)t}{\sigma\sqrt{t}}$$

$$d_2 = d_1 - \sigma\sqrt{t}$$