FORMULA SHEET FOR ONE-WAY ANOVA

I. DEGREES OF FREEDOM

- Degrees of freedom total
  \[ df_T = n_T - 1 \]
- Degrees of freedom between
  \[ df_b = K - 1 \]
- Degrees of freedom within
  \[ df_w = df_T - df_b \]

II. SUM OF SQUARES

- Sum of Squares total
  \[ SS_T = \sum x_T^2 - \left( \frac{\sum x_T}{n_T} \right)^2 \]
- Sum of Squares between
  \[ SS_b = \frac{\left( \sum x_1 \right)^2}{n_1} + \frac{\left( \sum x_2 \right)^2}{n_2} + \cdots - \left( \frac{\sum x_T}{n_T} \right)^2 \]
- Sum of Squares within
  \[ SS_w = SS_T - SS_b \]

III. MEAN SQUARES

- Mean square between
  \[ MS_b = \frac{SS_b}{df_b} \]
- Mean square within
  \[ MS_w = \frac{SS_w}{df_w} \]

IV. OBTAINED F

- F-obtained
  \[ f = \frac{MS_b}{MS_w} \]

V. EFFECT SIZE

- Eta-squared
  \[ n^2 = \frac{SS_b}{SS_T} \]

VI. GENERAL

- \[ f = t^2 \]