

Formulas for the Excel Lab Assignments

Always be sure to indicate the cell designation (e.g., C3) on YOUR worksheet when applying the formulas examples appearing below. Also, do NOT leave any spaces in the complete syntax statement.

MS Excel Lab I: BMI

BMI = Weight (Kg) or "C3" divided by Height or "D3" (m) squared

=C3/D3^2 or =C3/(D3*D3)

To generate categories based on the BMI result you may try the following IF, AND conditions:

=IF(D2>=24,"Elevated Risk",
IF(AND(D2>=22,D2<=23.9),"Low Risk",
IF(D2<=21.9,"Moderate Risk"))))

Grades Lab:

Excel syntax for the computation of a final grade (out of 100%):

=(SUM(C5:G5)/110)*20+H5/120*15+I5/100*15+J5/100*20+K5/120*20+10-L5

Excel syntax to generate a letter grade for each total score:

=LOOKUP(M5,{0,56,60,65,67,73.33,76.66,80,83.33,86.66,90,93.33,96.66},
{"F","D-","D","D+","C-","C","C+","B-","B","B+","A-","A","A+"})

Body Density and Body Fat Percentage Lab:

$$\text{Body Density} = \text{BW} / [(\text{BW} - \text{UWW}) / \text{WD}] - (\text{RLV} + 100 \text{ ml})$$

Where “D4” equals “Body Weight” or “BW” and “E4” equals “Under Water Weight” or “UWW” and “G4” equals “Water Density” or “WD” and “F4” equals “Residual Lung Volume” or “RLV.”

$$= \text{D4} / (((\text{D4} - \text{E4}) / \text{G4}) - (\text{F4} + 0.1))$$

$$\text{Percent Fat} = 495 / \text{Body Density} - 450$$

$$= 495 / \text{H4} - 450 \text{ (Where “H4” equals the “Body Density” value)}$$

To generate categories based on the %Body Fat result you may try the following IF, AND conditions:

$$\begin{aligned} &= \text{IF}(\text{J4} \leq 14.5, \text{"Very Low"}, \\ &\text{IF}(\text{AND}(\text{J4} > 14.5, \text{J4} \leq 18), \text{"Low"}, \\ &\text{IF}(\text{AND}(\text{J4} > 18, \text{J4} \leq 21.5), \text{"Medium"}, \\ &\text{IF}(\text{AND}(\text{J4} > 21.5, \text{J4} \leq 25.2), \text{"Medium/High"}, \\ &\text{IF}(\text{J4} > 25.2, \text{"Very High"})))) \end{aligned}$$