

Errata – Applied Engineering Statistics
Robert M. Bethea & R. Russell Rhinehart, CRC Press, 1991 – First printing
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Page ii – Vol 121 spelling of Rhinehart, not Rinehart

Page 32 – 4th line in Example 3.8 change “hides” to “hide”.

Page 34 – 2nd line below Equation (3.39) change “the fraction of total events” to “the number of partial events”.

Page 35 – third line from bottom, change “10 months) to “4 months” and change $\mu = \frac{\alpha}{\lambda} = \frac{3}{1/2} = 6$ to

$$\mu = \frac{\alpha}{\lambda} = \frac{3[\text{partials per total}]}{2[\text{months per total}]} = 1.5[\text{partials per month}]$$

Page 36 – change “We expect six tubes” to “We expect 1.5 tubes”, and in the Example 3.9 replace “10” with “4” “0.5” with “1.5) and “13” with 6, and remove the phrase “from Fig 3.9”.

Page 75 – add an overbar to X in the numerator of Equation (5.24)

Page 76 – In the 3rd line from bottom in Example 5.8, add overbars to both X symbols to represent the average of data sets.

Page 78 – add a note that Equation (5.33) is an approximation, good if $n > 20$ and p is not near the 0 or 1 extremes.

Page 84 – increase the size of the 0 representing the origin on Figure 6.1

Page 87 – Example 6.2, 6th line from the bottom, replace $Z = (\bar{X} - \mu)\sigma$ with $Z = (\bar{X} - \mu)/\sigma_{\bar{X}}$

Page 88 – Example 6.3, apparently the data in the text does not match the data that we used for the calculations.

Page 89 – Step 6, change X to \bar{X} . Page 92 – Step 6, change S_p to S_p^2 .

Page 107 – add the missing hyphen to 7th from last line in the Introduction.

Page 116 – in the first equation $-Y^2$ should be $\frac{-Y^2}{IJ}$

Page 124 – in the SS_{EE} equation about 2/3 down the page change $Y_{j.}^2$ to $Y_{ij.}^2$.

Page 128 – 7th line change $F=4.26$ to $F=2.156$

Page 130 – the heading of the 3rd column of the lower table should be “SS” not “Source”.

Page 131 – mid-page equations change $y_{i.}$ to $\bar{y}_{i.}$.

Page 135 – In Step 7, change $MS = \frac{6SS+12SS}{6+12} = 18.3055$ to $MS = \frac{SS+SS}{6+12} = 1.92$ (keep the subscripts).

This changes F_{RATIO} to a value of 0.1961, and F_{TEMP} to 24.138 making it $> F_{3,18,0.95}$, and changing the conclusion from “As we cannot H_{0_1} and H_{0_2} , we conclude that neither variable in the range studied affects yield” to “As we cannot reject H_{0_1} but can reject H_{0_2} we conclude that the S/HC in the range studied may not affect yield, but that temperature probably affects yield.”

Page 151 – Equation (8.3), $\hat{\beta}$ should be $\hat{\beta}_1$

Page 152 in the first line of the SS column of Table 8.1, change $n\bar{Y}^2$ to $n\bar{Y}^2$.

Page 165 – in the last line above Fig 8.5 change “Sect. 5.1” to “Sect. 5.2”.

Page 168 – the third entry in the Month 3 column should be 1.4651 not 1.3651.

Page 174 – the 3rd, 4th, and 5th lines of SAS code should be changed to be assignment of text, not a calculation. Remove the semi-colons, place the text in single quotes.

Page 325 – Example 14.7 is in error, the method presumes that the terms z_1 , z_2 , and z_3 are independent, but they are not. One cannot treat the face areas independently. The propagation of uncertainty should be on the equation for total area. The answer is $\sigma_y = 17.1207 \dots$ and probable error = $\pm 42.8018 \dots$

Page 236 – In Table 13.1 the first three columns are running backward.

Page 260 – Last paragraph, 5th line change “k=8 wafers” to “k=9 wafers”.

Page 275 – the denominator in the middle term in the first equation of the example should be n not \sqrt{n} .

Page 304 – first line, change “causes” to “cause”.

Page 346 – Table B.3, the z=2 entries for F and 1-F should be 0.9772 and 0.0228. This will match the x=2 entries on the previous page. The value is 0.97725 when rounded to 5 places, but I sense the 5 is a rounded up value, so when presented in 4 digits it should be rounded down.

Page 381 – in the last table remove the empty n=19 row.