ZOOL409 Study Session

5 September 2017

**Analyzing Standard Curve and Dilution Data: How-To**

1. Average your replicated absorbance values for standards and unknown samples
2. Select dilution factor of unknown samples with average absorbance values that fall within the average absorbance values of your standard curve range.
3. Subtract your averaged blank absorbance value from all other (standards and unknown samples) average absorbance values (this is your average blank corrected absorbance)
4. Graph your known average absorbance standard concentrations against their calculated absorbance values. Make sure you keep your units consistent using the units you used to set up your 96-well plate.
5. Fit a linear trendline and display the equation
   1. Or build your standard curve equation from your plate reader graph output, if provided. Do not include the zero concentration.
   2. Make sure you use consistent units.
6. Use your standard curve equation to calculate the concentrations (keep track of units) of your diluted blank-corrected unknown samples
   1. y=mx+b, solve for x, where y = average absorbance of diluted blank-corrected unknown sample, m = slope, x = concentration of your standard in correct units using in your equation, b = intercept
7. Correct for dilution factor of your newly calculated concentration of the diluted blank-corrected unknown samples
   1. Multiple concentration value by your dilution factor (e.g. 1:5 dilution = multiply calculated concentration by 5)
8. Depending on what hypothesis you are testing, run statistics on your results.
   1. See “ChoosingStatisticalTestFlowChart” for guidance, focusing on regression and ANOVAs.
   2. Report statistical results properly (F-stat with degrees of freedom and p values).