

FSEA Region 3 Workshop July 12, 2023
"Back to Basics"

Welcome 8:00AM

Basic Equipment Techniques:

- Use and Care of Balances
- pH Meters: Calibration and Measurements
- Preventing Memory Effects ("Carryover")
- Use of Volumetric Glassware
- Use of Mechanical Volumetric Devices
- Exercises

Break 10:00 – 10:15AM

Basic Safety Considerations

- Material Safety Data Sheets
- Proper Use of Personal Protective Equipment
- Mixing Chemicals
- Container Labeling

Reference Materials Preparations

- Getting the Right Concentration (" $C_1V_1 = C_2V_2$ is your friend")
- Molar/Normal Solution Preparations
- Preparation of Dilutions: Chemistry and Microbiology Applications
- Temperature effects

Lunch 12:00 – 1:00PM

Calibration Curves

- Different types
 - Single Point
 - Average Response
 - Linear Regression
 - Quadratic
 - Cubic

Break 3:00 – 3:15PM

Evaluating Error, Precision, and Accuracy

- Calculation of
- Percent Recovery (%R)
- Relative Percent Difference(%RPD)
- Percent Relative Error (%RE)
- Relative Standard Deviation (%RSD)
- Relative Standard Error (%RSE)
- Rounding and Significant Figures