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Data Analysis with Excel for Analysts, Scientists and Engineers
Course content & schedule

	08:30 – 10:30	11:00 – 12:30	13:30 – 15:30
Day 1	• Introduction • Errors • Variables & constants • Frequency dist. • Histogram • Normal Distribution • Skewness	• Descriptive Stats: • Central measures • Variation measures • Z-scores • Inference: • Random variables • Probability • Confidence Intervals	• One Sample t-Tests • P-values • Type I & II errors • Two-sample t-test: • Two-tailed test • Paired tests • One-way ANOVA • Means Graph
Day 2	• Revision Day 1 • Bivariate Regression: • Least squares • inference	• SSE / Standard error • SE_{b1} • Hypothesis testing: β_1 • Correlation	• Causality • Application in chemistry • Limit of detection • Curvilinear models
Day 3	• Revision Day 2 • Validation for Bivariate Regression • Residual Analysis • Residual plot	• Multiple Regression: • Main effects model • Quadratic model • Step wise regression • Hypothesis tests & CI's for coefficients	• Optimization • Qualitative Variables • Multicolinearity