Statistics Task Group of ASQC
and
American Statistical Association
Santa Clara Section
Present

J. Stuart Hunter

A leading translator of significant statistical concepts into a format suitable for industrial application, Professor Hunter is practical, informative and entertaining. Professor Hunter has many years of industrial consulting experience. He is co-author with G.E.P. Box and W.G. Hunter of Statistics for Experimenters, is founding editor of Technometrics, and has published extensively. He has received the Deming Medal and the Shewhart Medal from the ASQC.

The Arts of Charts

This two day course provides a "show and tell" of graphical and charting techniques. It presents statistically sound visual approaches to gain understanding from data.

Course Outline

Modern Graphics
- histograms
- stem & leaf plots
- two level comparisons

Elementary Statistics
- concepts vs. realizations
- simple hypothesis testing

More Graphics
- normal probability paper
- Weibull plots

Measuring Uncertainty
- probability: relative frequency
- Bayes postulate

Shewhart Quality Control Charts
- selecting rational subgroups
- setting up the X-bar and R chart

Estimating process capability
- the capability index, C_{pk}

Variations on the Shewhart chart
- acceptance sampling chart
- multivariate control charts

CuSum (Cumulative Sum) Charts
- plotting
- detecting changes in slope, V mask
- one-sided CuSum procedures

EWMA Charts
- exponentially weighted moving average
- comparison with Shewhart and CuSum

Simple Statistical Design of Experiments
- iterative nature of the learning process
- passive vs. active statistics

Design of Experiments

Experimentation speeds the learning process. This two day course shows how to develop a strategy for experimental investigation at minimal cost, how to design the experiments, and how to analyze them. It focuses on the statistical tools and concepts of greatest use to the industrial statistician.

Course Outline

Learning is a process
Elementary statistics
The normal deviate as "signal to noise"
Student's t statistics
Hypothesis tests
Interval estimates, Bayesian interpretation
Comparing two processes
Combining estimates of variance
Blocking variability
Paired t, sequential t, EVOP
Comparing k processes
Graphical "signal to noise"
Multifactor experimentation
The 2^2 factorial design
The 2^3 factorial design
The 2^4 and 2^5 designs
Screening experimentation
Fractional factorial designs
The 2^{k-1} half replicate designs
The 2^{k-p} designs
Sequential application
Three level fractional factorials
The Latin Square
Taguchi approaches
First order mapping, k=2
Path of steepest ascent
Second order mapping, k=2
Designs for k>2

The Arts of Charts	$595.00	Sunnyvale Hilton	March 27,28
Design of Experiments	$595.00	Sunnyvale Hilton	March 29,30

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Advanced Registration
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