

What's new in Version 19?

USER INTERFACE

1. **Dashboard** – displays tables and graphs from multiple analyses with red/yellow/green alerts.
2. **DataBook** – new sort options to reverse order of rows plus expanded *Undo*.
3. **Data import** – direct data import from Minitab project files, SAS transport files, and SPSS portable files.
4. **Optional single pane view in analysis windows** – report-style layout for tables and graphs.
5. **Python interface** – data exchange and execution of Python scripts.
6. **Quick access toolbar** – one-click access to common operations and analyses.
7. **Ribbon bar** – replaces old menu and analysis toolbar.
8. **StatGallery** – may now save graphs in image files.
9. **Tabbed dialog boxes** – new layout simplifies setting options.
10. **Tooltips on popup menus** – important aid for new users.

GRAPHICS AND DATA VISUALIZATION

1. **Barcharts with added lines** – to display second variable.
2. **Dendrograms** – optional lines to separate clusters.
3. **Missing data plot** – for visualizing location of missing values in a datasheet.
4. **Paired sample comparison** – new diagonal and difference plots.
5. **Point drill-down** – expanded information when clicking on a point.
6. **Transparent background** – may specify transparent background when copying images.
7. **Venn and Euler diagrams** – for visualizing overlap of sets.
8. **Waterfall plots** – for displaying ordered, sequential and 3-dimensional data.

DESIGN OF EXPERIMENTS AND STATISTICAL PROCESS CONTROL

1. **Alias optimal designs** – construction of experiments that maximize design efficiency while minimizing aliasing.
2. **Attribute capability analysis** – conformance analysis and Cpc statistic.
3. **Gage R&R using GLM** – allows unbalanced data and additional sources of variability.
4. **Optimal augmentation of existing designs** – computer generated runs added to existing designs so as to maximize design efficiency.
5. **Optimization** – may now select which responses to optimize in DOE Wizard.
6. **Recalculation points** – control limits and capability indices may be recalculated at 9 locations.

REGRESSION AND ANALYSIS OF VARIANCE

1. **Calibration models** – estimation of one-sided prediction limits.
2. **General linear models** – stepwise factor selection and easier entry of interactions.
3. **Piecewise linear regression** – fitting models with multiple linear segments.
4. **Quantile regression** – models for predicting response variable quantiles.
5. **Residual probability plots** – added to several procedures.
6. **Stability studies** – estimation of shelf life from multiple batches.
7. **Variance components analysis** – new contribution plot shows contribution of each component.
8. **Zero-inflated count regression** – Poisson and negative binomial regression models with extra structural zeroes.

DISTRIBUTION FITTING

1. **Bivariate mixture distributions** – mixtures of 2 or more bivariate normal distributions.
2. **Johnson distributions** – fitting and random numbers for SB, SL and SU distributions.
3. **Univariate mixture distributions** – mixtures of 2 or more univariate normal distributions.
4. **Zero-inflated Poisson and negative binomial distributions** – fitting and simulation.

MACHINE LEARNING

1. **Decision forests** – construction of classification and regression models based on multiple decision trees.
2. **K-means clustering** – grouping of observations based on variable similarities.

STATISTICAL TESTS

1. **Equivalence and noninferiority tests for variances** – comparing 2 variances and comparing variance to target.
2. **Mann-Kendall test** – test for monotonic trend in a time series.
3. **Modified Levene's test** – test for homogeneity of variances in oneway ANOVA.
4. **Wald-Wolfowitz test** – nonparametric comparison of two samples.