XLSTAT

Features by solution

There are 8 XLSTAT solutions available: Basic, Basic+, Sensory, Life Sciences, Marketing, Forecasting, Quality and Premium.

If you are not sure which solution is right for you, you can check the following overview to see which packages and features are included in each solution.
You will first see all the features that are included in Basic and Basic+. The other 6 solutions contain these features as well as additional features listed in the comparison table.

XLSTAT Basic

Preparing data

- Data sampling
- Distribution sampling
- Discretization
- Coding
- Coding by ranks
- Presence/Absence coding
- Missing data
- Complete disjunctive tables (Creating dummy variables)
- Create contingency tables
- Variables transformation
- Data management
- Data anonymization

Describing data

- Descriptive statistics (including box plots and scattergrams)
- Histograms
- Normality tests
- Contingency table (descriptive statistics)
- Similarity/Dissimilarity matrices (correlation...)
- Multicollinearity statistics
- Quantiles estimation
- Resampled statistics
- Kernel density estimation
- Variable characterization
- Intelligent Pivot Tables

Analyzing data

- Principal component analysis (PCA)
- Factorial analysis of mixed data (PCAmix)
- Correspondence analysis (CA)
- Multiple correspondence analysis (MCA)
- Factor analysis
- Discriminant analysis (DA)
- Agglomerative hierarchical clustering (AHC)
- k-means clustering
- Univariate clustering

Modeling data

- Distribution fitting
- Linear regression
- ANOVA (Analysis of variance)
- ANCOVA (Analysis of Covariance)
- Multivariate analysis of variance (MANOVA)
- Logistic regression
- Cubic splines
- Nonlinear regression

Visualizing data

- Scatter plots
- Univariate plots
- Radar charts
- Truncated Barchart
- Motion charts
- Bar chart race
- Bar charts with images
- Parallel coordinates plots
- Ternary diagrams
- 2D plots for crosstabs
- Error bars
- Semantic differential charts
- Probability plots
- Plot a function
- EasyLabels
- AxesZoomer
- Plot transformation
- Orthonormal plot
- Merge charts
- Reposition labels
- Resize a chart
- EasyPoints
- Colors, thickeness and size

Mathematical tools

- Probability calculator
- Matrix Operations

Text mining

- Word cloud
- Cleaning text data
- Lower and upper case

Testing a hypothesis

- Tests for one proportion
- Tests for two proportions
- One-sample t-test and z-test
- k proportions test
- Two-sample t-test and z-test
- Two-sample comparison of variances
- k-sample comparison of variances
- Multidimensional tests (Mahalanobis, ...)
- Multinomial goodness of fit test
- TOST (Equivalence test)
- One-sample variance test
- Comparison of two samples (Wilcoxon, Mann-Whitney, ...)
- Comparison of two distributions (Kolmogorov-Smirnov, ...)
- Comparison of k samples (Kruskal-Wallis, Friedman, ...)
- Cochran's Q test
- McNemar's test
- One-sample runs test
- Cochran-Mantel-Haenszel test
- Durbin and Skillings-Mack tests
- Page test
- Mood test (Median test)
- One sample Wilcoxon Signed-Rank test
- Tests on contingency tables (Chi-square...)
- Correlation tests
- Mantel test
- Cochran-Armitage trend test
- Biserial correlation
- RV coefficients
- Grubbs' test for outliers
- Dixon test for outliers
- Cochran C test for outlying variances
- Mandel's h and k statistics for outliers

XLSTAT Basic+

This solution includes the following features on top of all **Basic** features.

Preparing data

- Multiple answer questions

Describing data

- Reliability analysis
- Multiway crosstabs generator

Analyzing data

- Principal coordinate analysis
- Multidimensional scaling (MDS)
- Gaussian mixture models

Modeling data

- Log-linear regression (Poisson regression)
- Quantile regression
- Nonparametric regression (Kernel and Lowess)
- Partial least squares regression (PLS)
- Repeated measures analysis of variance (ANOVA)
- Mixed models
- Two-stage least squares regression
- LASSO regression
- Ridge regression
- Elastic net

Machine Learning

- Fuzzy k-means clustering
- One-class support vector machine
- Support vector machine
- K nearest neighbors (KNN)   •
Naive Bayes classifier
- DBSCAN (Density-Based Spatial Clustering of Applications with Noise)
- Classification and regression random forests
- Classification and regression trees
- Association rules
- Model performance indicators

Testing a hypothesis

- Friedman-Rafsky test

Text mining

- Fuzzy k-means clustering

XLSTAT-R

- DAPC
- Almost ideal demand system (AIDS)
- Dissimilarity matrix for mixed data
- Partitioning around medoids
- Michaëlis-Menten
- Dip test for unimodality
- Dirichlet regression
- Foreign file formats
- General additive models (GAM)
- Ridge, elastic net and lasso GLM
- Geostatistics (Kriging)
- Independent component analysis (ICA)
- Kohonen SOM
- Two layers Kohonen SOM
- AOVP
- LMP
- Granger causality test
- Nonlinear regression bootstrap
- Mixed models with multiple outputs
- Neural networks
- Panel regression
- Violin plots
- Prophet
- Rank-based regression
- X13-ARIMA
- Spacetime
- Chow test for structural change
- Stepwise Cox model regression
- GARCH modeling
- VAR models
- Permutational multivariate analysis of variances using distance matrices (adonis)
- Analysis of similarities (anosim)
- Similarity percentages (simper)
- Dissimilarity distances (vegdist)
- Ridgeplot

XLSTAT-RNotebook

These solutions include the following features on top of all Basic+ features

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
	●	●	●	●	●	●

Sensory data analysis

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Preference Mapping (PREFMAP)	●					●
Internal preference mapping	●					●
Penalty analysis	●					●
Product characterization	●					●
Panel analysis	●					●
CATA data analysis	●					●
Temporal Dominance of Sensations (TDS)	●					●
Time-Intensity	●					●
Generalized Bradley-Terry model	●					●
Sensory shelf life analysis	●					●
Design of experiments for sensory discrimination tests	●					●
Sensory discrimination tests	●					●
DOE for sensory data analysis	●					●
Generalized Procrustes Analysis (GPA)	●	●	●			●
CLUSTATIS	●	●	●			●
STATIS	●	●	●			●
TCATA	●					●
CATATIS	●					●
Sensory wheel	●					●
Free sorting data analysis	●					●
CLUSCATA	●					●
Projective mapping data analysis	●					●
Liking data analysis	●					●
Power for sensory discrimination tests	●					●

Path modeling (only for Windows OS)

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
PLS path modelling	●		●			●
Regularized generalized canonical correlation analysis (RGCCA)	●		●			●
Generalized structured component analysis (GSCA)	●		●			●

Power analysis

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Statistical power for mean comparison		●			●	●
Statistical power to compare variances		●			●	●
Statistical power for proportion comparison		●			●	●
Statistical power for linear regression		●			●	●
Statistical power for ANOVA / ANCOVA / Repeated measures ANOVA		●			●	●
Statistical power for logistic regression		●			●	●
Statistical power for Cox model		●			●	●
Sample size for clinical trials		●			●	●
Statistical power for correlation comparison		●			●	●

Design of experiments

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Screening designs		●			●	●
Analysis of a screening design		●			●	●
Surface response designs		●			●	●
Analysis of a surface response design		●			●	●
Analysis of a mixture design		●			●	●
Taguchi designs		●			●	●
Analysis of a Taguchi design		●			●	●
Mixture designs		●			●	●

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Survival analysis						
Life table analysis		•				•
Kaplan-Meier analysis		•				•
Cox proportional hazards models		•				•
Proportional Hazards model with interval censored data		•				•
Sensitivity and specificity analysis		•				•
ROC curves		•				•
Nelson-Aalen analysis		•				•
Cumulative incidence		•				•
Parametric survival regression (Weibull model)		•				•
Parametric survival curves		•				•
Propensity score matching		•				•
Illness-Death model		•				•
Method validation						
Method comparison (Bland Altman, …)		•				•
Passing and Bablok regression		•				•
Deming regression		•				•
Youden plots		•				•
Dose effect analysis						
Dose effect analysis		•				•
Four/Five-parameter parallel lines logistic regression		•				•
Inter-laboratory proficiency testing		•				•
OMICS data analysis						
Differential expression		•				•
Heat map		•				•

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium

Marketing tools

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Sample size calculator			●			●
Price sensitivity meter (Van Westendorp)			●			●
Price elasticity of demand			●			●
Customer lifetime value (CLV)			●			●
Raking survey data			●			●
Customer long-term value (CLTV)			●			●
TURF analysis	●		●			●

Conjoint analysis

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Designs for conjoint analysis			●			●
Conjoint analysis			●			●
Designs for choice-based conjoint analysis			●			●
Choice based conjoint analysis			●			●
MaxDiff analysis			●			●
MONANOVA - Monotone regression			●			●
Conditional logit model			●			●
Conjoint analysis simulation tool			●			●
Market generator			●			●
Designs for MaxDiff			●			●

Multiblock data analysis

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Canonical correspondence analysis (CCA and partial CCA)		●	●			●
Canonical correlation analysis (CCorA)		●	●			●
Redundancy analysis (RDA)		●	●			●
Multiple factor analysis (MFA)	●	●	●			●

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Decision aid						
ELECTRE methods			•		•	•
Design of experiments for the analytic hierarchy process (DHP)			•		•	•
Analytic hierarchy process (AHP)			•		•	•
Decision trees			•		•	•
Bayesian networks			•			•
Text mining						
Feature extraction			•			•
Latent semantic analysis (LSA)			•			•
Time series analysis						
Time series descriptive statistics				•		•
Time series transformation				•		•
Smoothing for time series				•		•
ARIMA				•		•
Mann-Kendall trend tests				•		•
Cointegration test				•		•
Unit root and stationarity tests				•		•
Homogeneity tests for time series				•		•
Heteroscedasticity tests				•		•
Durbin-Watson test				•		•
Cochrane-Orcutt model				•		•
Fourier transform				•		•
Spectral analysis				•		•
Times series visualization				•		•
Machine Learning						
Extreme gradient boosting				•		•
Monte Carlo simulations (only for Windows OS)				•		•

	Sensory	Life Sciences	Marketing	Forecasting	Quality	Premium
Statistical process control						
• Individual charts					●	●
• Subgroup charts					●	●
• Attribute charts					●	●
• Time weighted charts					●	●
• Pareto charts					●	●
• Gage repeatability and reproducibility (quantitative)					●	●
• Gage repeatability and reproducibility for attributes					●	●
XLSTAT.ai						
• Easy Fit / Easy Predict				●		●