

## Discoverant Basic User Training Course Syllabus

Aegis Analytical's Basic User Training Course is designed for the individual new to using the Discoverant system. A basic walkthrough of all Discoverant functions is completed, with enough hands-on exercises to allow the student to immediately begin using the tool to instigate process controls and begin to manage process variability.

### **AG Create**

Analysis Groups let you organize vast amounts of data into manageable subsets that you can more effectively analyze. An Analysis Group (AG) is a subset of data extracted from a hierarchy that allows you to focus on the data you wish to view, analyze or compare.

Upon completion of this module, you will understand Discoverant's process-centric view of a business process, and how the Discoverant Hierarchy provides access to process data. You will understand how to create and modify Analysis Groups, how to select parameters and place restrictions on parameter selection to further refine data sets for analysis. Finally, you will be learn the process for refreshing your Analysis Group data from your original data sources.

### **Table View**

Table View in Discoverant allows you to view Analysis Group data in a tabular format similar to a spreadsheet. In addition to viewing your data, you can manage the data in Table View by editing data values, creating new parameters and deleting parameters – all without altering the original source data.

Upon completion of this module, you will know how to use the Table View to view discrete, continuous, and discrete replicate data contained within your Analysis Group. You will be able to change display preferences, export and save data, and create categories and events.

### **Plotting**

The plotting features in Discoverant allow you to easily analyze and view your data graphically even if that data originates from multiple data sources.

- Create run charts for discrete data based on one or multiple parameters.
- Learn about basic charting options and preferences that are common to most of the different types of plots.
- Create basic continuous profile charts for continuous data and advanced continuous line plots for grouping and summarizing the data in different and meaningful ways based on categories or multiple parameters.
- Create discrete and continuous line plots and shading based on different categories or values of another parameter.

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- Learn about additional types of plots such as ribbon, bar, histogram, box and whisker, surface, tri-panel event plots, etc.

### Statistics

You can perform statistical analyses and comparisons of your data with simple point and click functionality using Discoverant's statistical tools. Although it's useful to understand the underlying statistical concepts, Discoverant does the complex calculations for you.

- Summary Statistics
- Normality Tests
- Basic and Multiple Regression
- Two Sample Tests
- ANOVA
- Variance Tests
- Correlation
- PCA (Principal Component Analysis), PCR (Principal Component Regression)
- K-Means

### Quality Monitor

Discoverant's Quality Monitor offers you a number of standard Statistical Process Control (SPC) tools that allow you to quickly visualize and detect process shifts.

- Control Charts – Discrete and Discrete Replicate
- CuSum Charts
- Pareto Charts
- Process Capability Analysis
- Batch Summary Reports



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## Curve Metrics

The Curve Metrics tool works with continuous data measured on different time scales. With Curve Metrics you can extract discrete features from continuous parameters, perform regression analysis on selected time slices and smooth out noisy data.

- Feature Extraction from continuous data
- APA (Advanced Profile Analysis)
- Curve Smoothing
- Curve Fitting

## MultiPhase Analysis

MultiPhase Analysis (MPA) is a tool that provides sophisticated graphical and analytical capabilities for multiple phase data and other operations that consist of multiple phases.

- Access MPA Tools and Toolbar
- Define Phases
- Edit Phases
- Plot Phases
- Compare Phases
- Calculations and Peak and Transition options

## Directives and Result Methods

Directives are unattended jobs that launch in response to a defined event. The jobs can be scheduled to run once at a specified time or at a recurring time. Result Methods is a time-saving feature that allows you to save the state of all active InVision windows (set-up and results) per Analysis Group. You can then execute the result method to re-display the windows using the most recent Analysis Group data. Combine Results combines reports and results from the open InVision tools into one overall report, or places multiple plots into a single-page report



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#### Result Method

- Create
- Execute
- Manage
- Automated Result Method

#### Combine Results

- Create
- Save as Result Method

#### Directives

- View messages and jobs
- Create and edit jobs
- Using external job triggers

#### Visual Process Signature

Visual Process Signatures (VPS) provides a unique, visual way to compare parameter interactions among batches, over time or in relation to the value of a particular parameter. VPS plots, in effect, are a 3D, animated “snapshot” of a manufacturing process.

- Setup and Chart types
- Dependent Parameters and PCs
- Animation Options
- Charts – Surface, Stage, etc.



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