



Vital & Applied Stats 101

Course Objective

The objective of this course is to provide participants with basic terms and concepts for statistical data analysis, understand common graphical and numerical analyses, learn practical statistical analysis skills and JMP skills, learn how to make valid reports and conclusions based on statistical data. Topics include describing single variables, relationships between multiple variables, and sampling to prepare participants for taking more advanced statistics courses.

Targeted Group

Engineering, Quality & Reliability, Statistician, Integration, Materials, Industrial Engineering, Information Technology, Manufacturing.

Pre-requisites

None. Vital and Applied Stats 101 is the pre-requisite to all other statistical application courses. It's simple and powerful as you can apply the knowledge to solve > 50% of engineering/manufacturing problems daily. Participants are required to install JMP Software (SAS JMP Pro 16.2 or later) prior the class.

Delivery Mode

PowerPoint presentation, hands-on activities, and Q&A.

Training Aid

Laptop and Zoom (or equivalent) presentation mode for online session. Projector for face-to-face session.

Duration

3 Days, 8Hours/day

Course Outline

Day 1

TIME	ACTIVITY	DETAILS
8:30AM-9:00AM	Registration & Breakfast	Registration starts at 8:30am together with breakfast.
9:00AM-10:30AM	Module 1: Definitions & Modeling Types	Course Contents/Activities: <ul style="list-style-type: none"> • Introduction. • Populations and Samples. • The Importance of Variation. • Data and JMP Modeling Types.
10:30AM-12:00PM	Module 2: JMP Lab: Introduction to JMP	Course Contents/Activities: <ul style="list-style-type: none"> • The JMP home window, menu bar, and help menus. • How to open a .jmp data table. • Data table structure: table panel, rows panel, columns panel. • A review of modeling types from Module 1. • Row and column selection and de-selection. • Adding new columns and initializing data. • Building a small data table in JMP.
12:00PM-1:00PM	Lunch	
1:00PM-3:00PM	Module 3: Summary Statistics and Graphs for Single Variables	Course Contents/Activities: <ul style="list-style-type: none"> • Data Distributions and Histograms. • Summary Statistics for Continuous Data. • Box Plots. • Summary Statistics for Nominal Data and Bar Charts.
3:00PM-5:00PM	Module 4: Good Sampling Practices and Statistical Distributions	Course Contents/Activities: <ul style="list-style-type: none"> • Good Sampling Practices. • Population Parameters and an Introduction to the Normal Distribution. • Introduction to the Binomial Distribution.

Course Outline

Day 2

TIME	ACTIVITY	DETAILS
8:30AM-9:00AM	Registration & Breakfast	Registration starts at 8:30am together with breakfast.
9:00AM-12:00PM	Module 5: JMP Lab: Single Variable Graphs	Course Contents/Activities: <ul style="list-style-type: none"> • The Distribution platform, custom summary statistics, and the recall button. • The Pareto Plot within the Quality and Process platform, and red triangle menu options. • JMP “live window” and row selection features. • Navigation methods between windows, the home button, and arrange menu. • Introduction to File>>Preferences. • Reading data into JMP from Excel or other formats and the Excel Wizard. • Introduction to capture and replay to make a table script. • Saving JMP output in a Journal, Report, or other format such as Word, html, pdf, etc.
12:00PM-1:00PM	Lunch	
1:00PM-5:00PM	Module 6: Relationship Between Two Variables	Course Contents/Activities: <ul style="list-style-type: none"> • Scatter Plots, Correlation, Fitting a Line, and R^2. • Side by Side Box Plots. • Mosaic Plots. • Logistic Plots. • Graphical Excellence.

Course Outline

Day 3

TIME	ACTIVITY	DETAILS
8:30AM-9:00AM	Registration & Breakfast	Registration starts at 8:30am together with breakfast.
9:00AM-12:00PM	Module 7: JMP Lab: Fit Y by X Platform, Rows, Cols, and Tables Menu	Course Contents/Activities: <ul style="list-style-type: none"> • The Fit Y by X Platform output including: Bivariate, Oneway, Contingency, and Logistic graphs. • Adding row legends and other graph right click menu options. • Data filters and local data filters. • Graph axis settings and Graph tools menu. • The Rows Menu and use of Hide, Exclude, Label, Color, and Marker. • The Columns Menu and use of Hide, Exclude, Label, Scroll Lock, Grouping Columns, and Columns Viewer. • Various Table Operations including Summary, Subset, Sort, Stack, Split, Concatenate, and Join.
12:00PM-1:00PM	Lunch	
1:00PM-3:00PM	Module 8: Multiple Variables Analysis and Data Integrity	Course Contents/Activities: <ul style="list-style-type: none"> • Variability Chart. • Graph Builder. • Column Formula's. • Data Integrity.
3:00PM-5:00PM	Module 9: JMP Lab: Multiple Variable Analysis and Data Integrity	Course Contents/Activities: <ul style="list-style-type: none"> • The Variability Chart Platform. • Ordering Data for plotting: Value Ordering and Row Order Levels. • The Graph Builder Platform. • Column Formulas. <ul style="list-style-type: none"> ○ Formula Editor, Table Variables. ○ On-the-fly formula creation from platform dialogue. ○ Columns Menu: Recode and Initialize data.

About Elite Indigo

Elite Indigo Consulting provides corporate training to the semiconductor and manufacturing industries. With a humble beginning of one founding member with passion and desire to share his 20 years of experiences in Smart Manufacturing for global manufacturing facilities, now, we have a strong and competent team of 20 members, all aligned with company mission, vision and core values.

Our Mission

"Transform Data into Insights - Leap Forward"

Our Vision

Be a Global Trusted Advisor in the Areas of Skills Development, Consultancy & Software Solutions specialising in Semiconductor & Manufacturing industries.

Our Core Values



Testimonials

Excellent training venue and very knowledgeable and competent trainer, satisfied with the course content and training experience. Can improve on course duration with an additional day to hands on and apply what we learnt to solve the actual problem we have at work and review by trainer.

-Intel Employee

Well developed course. very good, expert, experience trainer. The class was very engaging.

-Intel Employee

Amazing and Outstanding Training. Very practical and transformative to real business use case to solve problem, identify root cause and drive action plans.

-Intel Employee