

JMP® Training

Featuring:

JMP® Training Services

Six Sigma Training Services

Performance Excellence Training Services



Training from the people who know it best.

▶▶ www.jmp.com/training

▶▶ 800-333-7660

▶▶ training@jmp.com

jmp
Statistical Discovery™ From SAS.

“With the combination of software and training, you’ll have everything you need to make one dynamic discovery after another.”

“At user events worldwide, there’s one sentiment I hear over and over. It’s something like, ‘Wow. I didn’t know JMP could do that too.’ That’s because this advanced statistical tool is more than just dynamic graphics that tell the story of your data. Behind those graphs are deep analytics—so deep, in fact, that there are almost limitless ways to surface your data. To help you realize the full potential of JMP, we offer comprehensive training classes. With the combination of software and training, you’ll have everything you need to make one dynamic discovery after another.”

John Sall
Executive Vice President and Co-founder of SAS
Lead Developer of JMP software



SAS Education delivers the knowledge that improves performance.

SAS Education’s mission statement is simple: Deliver the knowledge customers need to improve their performance and skills using SAS technology. To accomplish this goal, SAS Education employs a network of nearly 100 certified instructors and 28 training facilities located throughout the country. The division also provides on-site instruction to organizations in need of group training at their site. For those users who do not live close to a regional training center, are looking to reduce travel expenses or time away from the office, or simply prefer the e-learning medium, the division offers a number of e-learning options, including Live Web classes and self-paced e-learning.

With more than 30 years of experience, SAS Education is the recognized leader in delivering the most comprehensive, state-of-the-art SAS training in the industry. We get to know you and your organization. You can rest assured that if questions arise, even after training is completed, we’ll be ready and able to answer.

 support.sas.com/training
800-333-7660

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Penguin chicks require attentive parents for survival.

They can't learn as well on their own.

But you can. With books, training and online resources from SAS.

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SAS SOFTWARE HELPS COMPANIES ACROSS EVERY INDUSTRY DISCOVER INNOVATIVE WAYS TO INCREASE PROFITS, MANAGE RISK AND OPTIMIZE PERFORMANCE.

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**THE
POWER
TO KNOW.**

Advantages of JMP® training

Increase Productivity

With courses at all skill levels, we meet you at your level of knowledge. After your first course, you will be more productive with JMP software. Deploying JMP software has never been faster or easier.

Customize Training

Our experts will work closely with you to tailor a training path based on your individual needs. Our assessments will determine how you can get the help you need to excel in your job.

Receive Firsthand Knowledge

No one knows JMP software and its advantages better than SAS personnel. And, no one has information on new and pending developments like we do.

Taught by World-Class Instructors

SAS instructors are recognized for their outstanding teaching skills and as leaders in their areas of instruction. In addition, they undergo rigorous internal certifications on a chapter-by-chapter basis before teaching your course.

Build Long-Term Relationships

We are proud of the long-term relationships we have built with our customers. Your continued and future success is our highest priority.

Choose SAS Education to help you get the most from your JMP® software investment.

Our training program manager Heath Rushing and your account representatives Deborah Upchurch and Karen Galey are committed to building long-term, successful partnerships with our users.

To learn more, send an e-mail to training@jmp.com or call **800-333-7660** and ask for Deborah Upchurch, Karen Galey or Heath Rushing.



Heath Rushing
Training Program Manager



Deborah Upchurch
Account Manager



Karen Galey
Account Manager

What We Offer

Public Courses

Public courses are taught at SAS training facilities around the globe. Our instructors deliver critical JMP knowledge and helpful tips using a combination of expertly designed lectures and software demonstrations, question-and-answer sessions and hands-on computer workshops for an interactive learning experience that is second to none.

Benefits

- Have a Certified JMP instructor at your side.
- Receive relevant, up-to-date course content. Our courses are developed in conjunction with R&D to reflect the latest advancements in SAS technology.
- Choose from an extensive course list. We schedule classes at all skill levels addressing a complete range of JMP software topics.

On-Site Courses

On-site courses are JMP training classes delivered at your location from the people who know it best.

We will teach critical JMP knowledge and helpful tips using a combination of expertly designed lectures and demonstrations, question-and-answer sessions and hands-on computer workshops.

Benefits

- Receive a tailored curriculum and extensive interaction with a JMP expert.
- Train in a familiar, confidential environment.
- Discuss topics that are exclusively relevant to your organization's needs.
- Eliminate your staff's travel time and expenses.

Live Web Courses

Live Web courses allow you to use a Web browser and telephone while an expert instructor guides your class and answers your questions in real time. Get the expert training you expect from SAS without ever having to leave your desk.

Benefits

- Enjoy real-time interaction with an instructor and classmates from your desktop.
- Eliminate travel time and expenses.
- Access the latest JMP software via a virtual lab.
- Reduce time away from work with three-hour sessions.

Mentoring and Consulting Services

Mentoring and consulting services provide you with expert assistance to help you navigate your business challenges and implement a viable solution.

Our team of mentoring and consulting experts has deep industry experience and can show you how to apply JMP software as well as performance excellence methodology in the confidence, familiarity and relevance of your work environment.

We have helped clients in the following industries:

- Manufacturing
- Semi-conductor
- Pharmaceutical and biotech
- Chemical processing
- Healthcare, including hospitals
- Finance and banking
- Insurance
- Government and military

Our experts can provide end-to-end solutions or offer coaching on specific topics. Our delivery will be tailored to meet your needs, whether you are a large enterprise or small business. Before an engagement begins, initial meetings are conducted to plan for your specific needs and to focus on your organization's broader objectives. Sample topics for our mentoring and consulting services include:

JMP topics:

- Programming using the JMP® Scripting Language
- Visual data exploration
- Design of Experiments (DOE)
- Statistical analyses

Six Sigma topics:

- Full-scale Lean Six Sigma
- Performance excellence methodologies
- Manufacturing and Transactional Six Sigma
- Green and Black Belt projects
- Visual Six Sigma
- Healthcare Operational Excellence

Trainer's Kits

Trainer's Kits are for organizations that have instructors on staff who know JMP or Six Sigma. You can choose the course you need from our current JMP curriculum or Six Sigma curriculum, and we will create a trainer's kit that has everything your staff will need to teach a class. Use the materials as they are, or make modifications to suit your environment.

Each kit contains:

- Course data
- Presentation materials
- 30 copies of the course notes

Benefits

- Use the same high-quality training materials that JMP instructors use.
- Maximize use of your training staff.
- Written by the JMP experts who have years of technical training experience.

Meet Our Instructors



Heath Rushing

A former professor from the Air Force Academy, Heath Rushing holds a master's degree in operations research from the Air Force Institute of Technology and has used JMP since 2001. After teaching at the Academy, Heath served as a quality engineer with a biopharmaceutical company where he designed and delivered training material in Six Sigma, Statistical Process Control (SPC), Design of Experiments (DOE) and Measurement Systems Analysis (MSA) using JMP. In addition, Heath has been a symposium speaker at both national and international medical device conferences. Heath is an American Society of Quality (ASQ) Certified Quality Engineer. He is currently the JMP Training Program Manager.

One of Heath's students said:

"Heath was very professional and knowledgeable on both statistical analysis and the use of JMP software. He kept us on target and interjected a good amount of fun into the course when needed."



Mark Bailey

Mark Bailey, a Statistical Services Specialist, has been a JMP instructor since 1998. In addition to the bachelor's degree in chemistry he holds from the State University of New York College at Fredonia, Mark holds a doctoral degree (also in chemistry) from the University of Rochester.

One of Mark's students said:

"Mark took the extra time and effort to work one-on-one with me, assuring that I felt comfortable utilizing the software to reap its full benefit."



Al Bartolucci

Al Bartolucci, a Professor of Biostatistics/Statistics at the University of Alabama at Birmingham, has been working with and using JMP for consultations and class instruction since 2001. He has a bachelor's degree in mathematics from Holy Cross College, a master's degree in mathematics from Catholic University and a PhD in statistics from the State University of New York at Buffalo. He consults nationally on both private industrial and government projects requiring statistical design, analysis and interpretation.

One of Al's students said:

"He did a great job bridging the basic theory to the problem/application to the software usage. He also described examples of analyses, which were very relevant to a pharmaceutical company audience."



Monica Beals

Monica Beals earned a Ph.D. in ecology and evolutionary biology and a Master's in statistics from the University of Tennessee, and her Bachelor's in biology from Earlham College. Before joining SAS, Monica taught as a lecturer and biology laboratory instructor for the University of Tennessee. She also had a two-year research assistantship at the university for a project aimed at increasing undergraduate mathematical literacy through the biology curriculum, funded by the National Science Foundation. Monica began using JMP in 2001 and joined SAS as a Statistical Training Specialist in July of 2007.

One of Monica's students said:

"Monica is very engaging and I really like her style of teaching. She is interactive, responsive and treats all levels of questions with respect."



Kim Bell

Kim Bell holds a master's degree in probability and statistics from Auburn University and a bachelor's degree in mathematics and computer science from the University of Alabama. Kim is President and Founder of DataAnalysis, Inc. a worldwide provider of analytical and instructions services in the field of quality management. She was first introduced to JMP in the mid 1990s and began teaching JMP in 2005.

One of Kim's students said:

"Kim was vibrant, warm, enthusiastic, expressive, pleasant, very personable, and had a good sense of humor as well. She gave very clear explanations! It all made sense. I learned a lot in this class."



Tom Bohannon

Dr. Tom Bohannon earned a PhD in statistics from Texas A&M University and a master's degree in mathematics from Wake Forest University. He also holds a bachelor's degree in mathematics with a physics minor from McNeese State University. Prior to retiring, Tom was the Assistant Vice President at the Office of Institutional Research at Baylor University. He has been an instructor for SAS and JMP for over 20 years and has been using JMP since its inception.

One of Tom's students said:

"Enjoyable experience going through the software and examples with Tom. Excellent knowledge of SAS/JMP product. Great ability to communicate statistical concepts."



Todd Cook

Todd Cook is a Six Sigma Master Black Belt with a wide variety of experience in many industries including biotech, medical device, semiconductor, banking and consumer products. He has been a JMP user for over 15 years and an instructor using JMP for over 12 years. Todd holds a master's degree in engineering from the University of Massachusetts.

One of Todd's students said:

"Todd took time at breaks and lunch to discuss specific problems with the attendees and work through data sets from the engineers. Thank you!"



Stephanie Curtis

Stephanie was first introduced to JMP while working on her bachelor's and master's degrees in statistics at Brigham Young University. Stephanie served as a teaching assistant, helping students use JMP for a number of classes. During an internship at Intel Corporation, Stephanie taught several statistics classes based on JMP and revised the course materials. While at Intel, she also learned JMP scripting. Now Stephanie enjoys teaching JMP classes for SAS and spending time with her husband and three children.

One of Stephanie's students said:

"Stephanie presents material clearly and effectively. She is very knowledgeable and personable."



Gerry Hobbs

Instructor Gerry Hobbs has nearly 40 years of teaching experience and dozens of publication credits. He holds his doctorate and a master's degree in statistics from Kansas State University and has consulted with SAS Education for more than 25 years. Gerry also serves as coordinator of the biostatistics group at West Virginia Medical School.

One of Gerry's students said:

"Gerald Hobbs presented some of the best explanations and demonstrations of complex statistical concepts that I have heard in a long time. His presentations were lively and interspersed with humor."



Wayne Levin

Wayne graduated with a bachelor's degree in Industrial Engineering from the University of Toronto and a master's degree in Engineering from the University of Waterloo with an emphasis on statistical methods. Wayne is a Six Sigma Master Black Belt and has been a JMP instructor for almost 10 years and a JMP user since Version 3.

One of Wayne's students said:

"Wayne was enthusiastic about the material and encouraged questions and comments. He has a very enjoyable presentation style and is very knowledgeable."



Thomas Little

A former professor from San Jose State University, Tom Little, PhD assists major corporations to integrate JMP into their operational and product development activities. Tom has a bachelor's from Brigham Young University and a PhD from Purdue University. During his career, Tom has trained over 15,000 engineers and scientists and has been a JMP instructor for six years.

One of Tom's students said:

"If Tom were my instructor in college, I probably would have changed my major to stats. His real life experiences made a huge difference in presenting the JMP course material. Awesome."



Paul Marovich

Paul Marovich came to SAS in 1996 with a master's degree in statistical computing from the University of Central Florida, where he taught statistics briefly after graduating. Paul has over 25 years of experience using SAS and has been teaching JMP since 1999.

One of Paul's students said:

"Paul is the best teacher I've ever had. He's a well-informed and entertaining instructor with great examples, wonderful handouts, and very good stories that made the subject exciting."



Azhar Nizam

Azhar Nizam earned his Bachelor of Arts degree from Grinnell College in 1985, and his Master of Science in Statistics from the University of South Carolina in 1987. He has been a contract instructor for SAS Institute since 2000, teaching SAS and, more recently, JMP statistics courses.

One of Azhar's students said:

"If you have Azhar around, I don't see how this course could be improved."



Richard Papel

Instructor Richard Papel is a man of diverse talents and experience. He's been a FORTRAN programmer in the transportation industry, a researcher in medical use patterns, and a forecaster of electric loads in the electric utility industry. He holds a bachelor's degree in urban studies from California Polytechnic State University, a master's degree in biostatistics from University of California, Berkeley, and a master's degree in urban planning from University of California, Los Angeles.

One of Richard's students said:

Richard is a "superb instructor who has great pacing, is very clear and informative, was energetic and enthusiastic, and did a terrific job presenting the material to the class."



David Pfeiffenberger

David received his bachelor's degree in electrical engineering from Pennsylvania State University and his master's degree in engineering management from the University of Kansas. Although David has worked in a variety of industries, including telecommunications, aerospace, software and healthcare, process improvement and JMP have been a common thread throughout his career. David enjoys sharing examples and stories of his experience using JMP to solve complex problems with his students.

One of David's students said:

"David made the class both informative and entertaining. His effort in explaining how JMP can help me solve my particular problem was successful and greatly appreciated."



Laura Ryan

After receiving a bachelor's degree in mathematics and Spanish from Davidson College and a master's degree in math education from Duke University, Laura began teaching AP statistics in Durham, NC. It was then that she was first introduced to JMP and realized that she wanted to further her education in statistics. Laura received a master's degree in applied statistics from the University of Alabama and has been teaching JMP ever since.

One of Laura's students said:

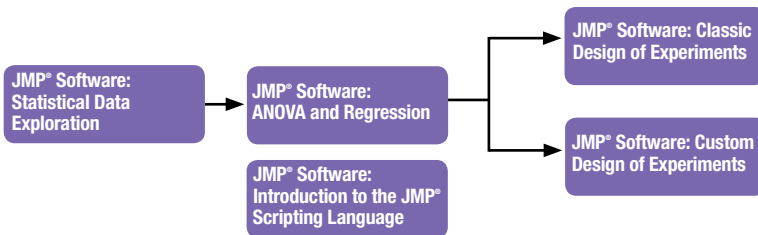
"Laura is a very knowledgeable and personable instructor. She has an excellent way of conveying information in a very logical and structured way. She is very motivated and motivating."



JMP® Analyst

I use JMP software to dynamically visualize statistical data analyses.

▶▶ support.sas.com/paths/jmp



Advanced and Specialty Courses

JMP® Software: Stability Analysis*

JMP® Software: Measurement Systems Analysis and Variation Reduction*

JMP® Software: Process Control Design Using SPC*

Mixture Design of Experiments Using JMP®*

JMP® Software: Introduction to Categorical Data Analysis

JMP® Software: Statistical Quality Control

JMP® Software: Analysis of Dose-Response Curves with JMP®

*JMP® 8 courses

JMP® Courses

JMP® Software: Analysis of Dose-Response Curves with JMP®

This course presents an approach for applying techniques recommended in USP regulations for analyzing assay curves. This course specifically focuses on the evaluation and statistical analysis of dose-response data. A case study is used to demonstrate these principles and the advantages of software tools.

Learn how to:

- prepare assay data for analysis
- identify an appropriate model for dose-response curves
- specify a model as a column formula
- simultaneously fit a curve to the standard and the unknown sample data
- automate the analysis using a simple template and a completely scripted solution.

Who should attend: Scientists and Quality Control personnel with some statistical training who need to fit dose-response curves to assay data and determine relative potency

Delivery: Classroom

Duration: 0.5 day

Public course fee: \$310
(0.6 EPTO units)

On-site course fee: \$1,800
(4.1 EPTO units)

JMP® Software: ANOVA and Regression

This course teaches how to analyze data with a single continuous response variable using analysis of variance and regression methods. You learn how to perform elementary exploratory data

analysis (EDA) and discover natural patterns in data. Important statistical concepts such as confidence intervals are also introduced.

Learn how to:

- compare two means using a t-test
- generate and interpret an analysis of variance to compare more than two means
- analyze relationships between continuous variables using simple and multiple linear regression models
- perform an analysis of covariance to incorporate continuous and categorical predictors
- evaluate assumptions in statistical hypothesis testing.

Who should attend: Analysts and researchers with some statistical knowledge

Delivery: Classroom and Live Web

Duration: 2 days or 4 half-day Live Web sessions

Public course fee: \$950
(1.8 EPTO units)

On-site course fee: \$5,500
(12.6 EPTO units)

JMP® Software: Classic Design of Experiments

This course teaches you how to design and analyze experiments. Designed experiments can help optimize the process response or identify the vital few factors that drive your product or process. The course emphasizes the principles of experimental design and includes screening designs and response surface designs.

Learn how to:

- explain the fundamental principles of designed experiments

- generate and analyze full factorial, fractional factorial, split-plot and screening designs, including designs with blocking factors
- create and analyze classic response surface designs
- use the custom design tool.

Who should attend: Anyone who would like to understand and improve process design, such as engineers, scientists and Six Sigma practitioners

Delivery: Classroom and Live Web

Duration: 2 days or 4 half-day Live Web sessions

Public course fee: \$950
(1.8 EPTO units)

On-site course fee: \$5,500
(12.6 EPTO units)

JMP® Software: Custom Design of Experiments

This course offers a fresh perspective about designing experiments through state-of-the-art features in JMP. This course specifically focuses on the principles of designing an experiment and how to utilize all of them to achieve an optimal design.

Learn how to:

- use custom design for any experiment
- choose appropriate criteria for optimal design
- effectively and efficiently test factor effects or predict responses
- augment existing experiments to address new questions
- design and analyze experiments with hard-to-change factors
- eliminate noise from nuisance factors
- find best factor settings to achieve desired response levels.

Who should attend: Directors, managers, engineers, scientists, technicians and analysts working in discovery, research, development and quality assurance or control, as well as Black Belts working on Six Sigma projects

Delivery: Classroom

Duration: 2 days

Public course fee: \$950
(1.8 EPTO units)

On-site course fee: \$5,500
(12.6 EPTO units)

JMP® Software: Introduction to Categorical Data Analysis

This course teaches you how to analyze attribute response data using association, logistic regression, partitioning and attribute measurement systems analysis (MSA) techniques.

Learn how to:

- examine associations among variables
- partition data
- perform logistic regression
- interpret logistic regression output
- perform correspondence analysis
- conduct an attribute MSA.

Who should attend: Analysts and researchers who want to analyze attribute data and who have at least some statistical training

Delivery: Classroom and Live Web

Duration: 1 day or 2 half-day Live Web sessions

Public course fee: \$475
(0.9 EPTO units)

On-site course fee: \$2,750
(6.3 EPTO units)

JMP® Software: Introduction to the JMP® Scripting Language

This course demonstrates how to extend JMP software's functionality using the JMP Scripting Language (JSL) to automate routine procedures, extend or create new procedures and customize reports.

Learn how to:

- use the basic elements in JSL
- use messages, functions and expressions to create new data tables and columns, control analyses and capture or modify reports
- create and use dialogs to adapt script behavior
- save JMP scripts as custom menu or toolbar items to automate routine analyses and reporting.

Who should attend: Anyone familiar with JMP who wants to learn the JMP Scripting Language (JSL)

Delivery: Classroom

Duration: 2 days

Public course fee: \$950 (1.8 EPTO units)

On-site course fee: \$5,500
(12.6 EPTO units)

JMP® Software: Measurement Systems Analysis and Variation Reduction

This course covers the basic concepts associated with Measurement Systems Analysis (MSA) and variation reduction. Topics include the assessment of repeatability, reproducibility, Gage R&R, bias, linearity, stability, inspection effectiveness, standards selection and use, calibration, compensation, measurement improvement and control.

Learn how to:

- use variability charts, ANOVA, and REML to quantify components of variation
- create and evaluate gage repeatability and reproducibility (Gage R&R) studies
- create and evaluate a measurement systems analysis for variables and attribute data.

Who should attend: Engineers, scientists and managers who have direct responsibility for measurement evaluation, selection and control

Delivery: Classroom

Duration: 1 day

Public course fee: \$475 (0.9 EPTO units)

On-site course fee: \$2,750
(6.3 EPTO units)

JMP® Software: Process Control Design Using SPC

This course covers the basic concepts and methodologies associated with designing closed loop process controls using statistical process control for variables and attributes data.

Learn how to:

- select the correct controls for a process
- create a process control system
- determine the capability of a process
- develop a control implementation strategy.

Who should attend: Process engineers, QA engineers and managers who actively work on any aspect of process development and controls associated with the measurement of continuous variables

Delivery: Classroom

Duration: 2 days

Public course fee: \$950 (1.8 EPTO units)

On-site course fee: \$5,500
(12.6 EPTO units)

JMP® Software: Stability Analysis

This course presents an approach for integrating the techniques outlined in FDA regulations and ICH guidelines into your stability program. This course specifically focuses on the evaluation and statistical analysis of stability data. In addition to the analytical techniques, the course focuses on the motivation behind this approach. A case study is used to demonstrate these principles and the advantages of software tools.

Learn how to:

- interpret FDA regulations and ICH guidelines concerning stability evaluation
- determine expiry from confidence intervals and inverse prediction from regression analysis
- apply nonlinear models to degradation and accelerated degradation
- identify out-of-trend batches.

Who should attend: Scientists and Quality Control personnel conducting stability testing with some statistical training

Delivery: Classroom and Live Web

Duration: 1 day or 2 half-day
Live Web sessions

Public course fee: \$725
(1.4 EPTO units)

On-site course fee: \$4,600
(10.5 EPTO units)

JMP® Software: Statistical Data Exploration

This course is designed as the first step for those who want to use JMP to manage, analyze and explore data.

Learn how to:

- navigate the JMP interface
- manage data effectively in JMP
- explore data by using JMP software's

extensive graphical capabilities

- create and manage reports in JMP.

Who should attend: Anyone who wants to increase their knowledge and use of JMP to explore data

Delivery: Classroom and Live Web

Duration: 1 day or 2 half-day
Live Web sessions

Public course fee: \$475
(0.9 EPTO units)

On-site course fee: \$2,750
(6.3 EPTO units)

JMP® Software: Statistical Quality Control

This course teaches you how to apply statistical quality control techniques to many different control situations using JMP software.

Learn how to:

- generate and interpret control charts for variable and attribute data
- generate and interpret Pareto charts
- compare control limits to specification limits
- calculate and interpret capability indices
- generate and interpret Ishikawa diagrams.

Who should attend: Engineers, scientists and technicians using JMP to perform statistical quality control analyses

Delivery: Classroom

Duration: 1 day

Public course fee: \$475
(0.9 EPTO units)

On-site course fee: \$2,750
(6.3 EPTO units)

Mixture Design of Experiments Using JMP®

This course is designed for those individuals directly working on product and process development to characterize, optimize and control product and process performance.

Learn how to:

- select factors and responses for a mixture design
- create and analyze simplex lattice designs and simplex centroid designs
- create and analyze ABCD screening designs
- create and analyze extreme vertices designs with linear constraints
- create and analyze optimal and custom mixture designs.

Who should attend: Engineers and scientists who have completed design-of-experiments training and want to design and analyze mixture experiments available in JMP software

Delivery: Classroom

Duration: 1 day

Public course fee: \$475
(0.9 EPTO units)

On-site course fee: \$2,750
(6.3 EPTO units)

The difference between Classic and Custom Design of Experiments:

The **Classic Design of Experiments** course is aimed at helping users properly choose and use one of the classic or traditional kinds of designs, as taught in Six Sigma training courses. Such designs have served scientists and engineers well for over eighty years.

The **Custom Design of Experiments** course focuses on how to design experiments using the latest statistical methods. These designs are capable of reproducing all of the classic or traditional designs but in a much simpler way. This type of design can design experiments that are impossible by the classic or traditional design approaches, and provide students with the fundamental principles of experimental design.

New to Live Web!

JMP® Software: Introduction to the JMP Scripting Language

Extend JMP's functionality by using the JMP Scripting Language to automate routine procedures, extend or create new procedures and customize reports.

JMP® Software: Custom Design of Experiments

Learn how to design experiments through state-of-the-art features in JMP.



Six Sigma Professional

I implement Six Sigma methodology to create data-driven measurement strategies to improve processes and reduce variation.

▶▶ support.sas.com/paths/ss

DMAIC Six Sigma

Executive and Management Training

JMP® for the Six Sigma Professional

Executive Overview for Six Sigma

Champion Training for Six Sigma

Black Belt Training

Black Belt—Manufacturing Process Excellence with Lean Six Sigma

Black Belt—Transactional Process Excellence with Lean Six Sigma

Green Belt Training

Green Belt—Manufacturing Process Excellence with Lean Six Sigma

Green Belt—Transactional Process Excellence with Lean Six Sigma

Advanced and Specialty Courses

Yellow/White Belt – Basic DMAIC Problem Solving for Lean Six Sigma

Green Belt – Healthcare Process Excellence with Six Sigma

JMP® Overview for the Six Sigma Professional

SIX SIGMA COURSES

Black Belt - Manufacturing Process Excellence with Lean Six Sigma

This course presents the Six Sigma philosophy. Students learn the DMAIC methodology and apply it to their manufacturing projects.

Learn how to:

- use the DMAIC methodology to solve product production problems
- define a problem and objective statement
- determine Critical-to-Quality factors
- generate and execute a data collection plan
- use root-cause analysis tools to determine the root cause of a problem
- generate improvement strategies
- implement a control system for a newly improved process.

Who should attend: Black Belts or Green Belts working directly on Six Sigma projects

Delivery: Classroom

Duration: 16 days

Public course fee: \$11,600
(22.4 EPTO units)

On-site course fee: \$73,600
(168 EPTO units)

Black Belt - Transactional Process Excellence with Lean Six Sigma

This course presents the Six Sigma philosophy. Students learn the DMAIC methodology and apply it to their transactional projects.

Learn how to:

- use the DMAIC methodology to solve operational problems
- define a problem and objective statement
- determine Critical-to-Quality factors

- generate and execute a data collection plan
- use root cause analysis tools to determine the root cause of a problem
- generate improvement strategies
- implement a control system for a newly improved process.

Who should attend: Black Belts or Green Belts who are working directly on Six Sigma projects and come from different transactional backgrounds such as sales, human resources, finance and customer service

Delivery: Classroom

Duration: 9 days

Public course fee: \$6,525
(12.6 EPTO units)

On-site course fee: \$41,400
(94.5 EPTO units)

Champion Training for Six Sigma

This course includes an overview of Six Sigma concepts, required infrastructure, expected benefits, enterprise level metrics, the DMAIC method for achieving breakthroughs in performance, project selection and project management.

Learn how to:

- identify opportunities for Six Sigma projects
- write a Six Sigma project problem and objective statement
- select belt candidates
- allocate resources for Six Sigma projects.

Who should attend: Directors and managers working directly as champions of Six Sigma breakthrough projects; suitable for people from manufacturing or transactional backgrounds

Delivery: Classroom

Duration: 2 days

Public course fee: \$1,450 (2.8 EPTO units)

On-site course fee: \$9,200 (21 EPTO units)

Executive Overview for Six Sigma

This course presents an overview of Six Sigma concepts, the required infrastructure, expected benefits, enterprise-level metrics and the DMAIC method for achieving breakthroughs in performance.

Learn how to:

- determine if your organization is ready for a Six Sigma implementation
- estimate expected benefits
- use the DMAIC or DFSS process to improve business performance.

Who should attend: People from manufacturing or transactional backgrounds and executives working directly with champions, Black Belts and Green Belts on Six Sigma breakthrough projects

Delivery: Classroom

Duration: 0.5 day

Public course fee: \$470 (0.9 EPTO units)

On-site course fee: \$2,990 (6.8 EPTO units)

Green Belt - Healthcare Process Excellence with Lean Six Sigma

This course presents the basic DMAIC problem-solving methodology used in lean Six Sigma projects to understand the root cause of performance problems and to create breakthroughs in improvement. This is an essential course for any lean Six Sigma project leader working in healthcare.

Learn how to:

- define a problem in measurable terms
- measure core performance and establish metrics
- collect and analyze data relevant to the problem of interest
- analyze the system of causes and determine all root causes

- plan and implement solutions relevant to the root cause of the problem
- evaluate the effectiveness of the solutions.

Who should attend: Individuals working directly on problem solving, product and process development, cycle time, lean, process improvement and corrective action using the DMAIC problem-solving methodology

Delivery: Classroom

Duration: 6 days

Public course fee: \$4,350 (8.4 EPTO units)

On-site course fee: \$27,600 (63 EPTO units)

Green Belt - Manufacturing Process Excellence with Lean Six Sigma

This course presents the Six Sigma philosophy and teaches you how to use the related tools. Students learn the DMAIC methodology and apply it to their manufacturing breakthrough projects.

Learn how to:

- use the DMAIC methodology to solve product production problems
- define a problem and objective statement
- determine Critical-to-Quality factors
- generate and execute a data collection plan
- use root-cause analysis tools to determine the root cause of a problem
- generate improvement strategies
- implement a control system for a newly improved process.

Who should attend: Green Belts working directly on Six Sigma/lean projects

Delivery: Classroom

Duration: 9 days

Public course fee: \$6,525
(12.6 EPTO units)

On-site course fee: \$41,400
(94.5 EPTO units)

Green Belt - Transactional Process Excellence with Lean Six Sigma

This course presents the Six Sigma philosophy. Students learn the DMAIC methodology and apply it to their transactional Six Sigma and lean projects.

Learn how to:

- use the DMAIC methodology to solve operational problems
- define a problem and an objective statement
- determine Critical-to-Quality factors
- generate and execute a data collection plan
- use root-cause analysis tools to determine the root cause of a problem
- generate improvement strategies
- implement a control system for a newly improved process.

Who should attend: Green Belts who are working directly on Six Sigma projects and come from different transactional backgrounds, such as sales, human resources, finance and customer service

Delivery: Classroom

Duration: 6 days

Public course fee: \$4,350
(8.4 EPTO units)

On-site course fee: \$27,600
(63 EPTO units)

JMP® for the Six Sigma Professional

This course covers JMP software's approach to data manipulation and analysis, measurement systems analysis, design of experiments, and statistical process control in direct support of DMAIC breakthrough projects.

Learn how to:

- import and manipulate data in JMP
- use JMP for statistical analysis of data collected for a Six Sigma project
- design and analyze an experiment in JMP
- create control charts in JMP.

Who should attend: Six Sigma professionals who need to learn JMP

Delivery: Classroom

Duration: 4 days

Public course fee: \$2,900
(5.6 EPTO units)

On-site course fee: \$18,400
(42 EPTO units)

JMP® Overview for the Six Sigma Professional

This course is for Black Belts and Master Black Belts who want to become familiar with the Six Sigma analytical tools that are available in JMP. It also includes a review of statistics and analytical methods.

Learn how to:

- navigate in JMP
- conduct basic statistical tests using JMP
- generate and interpret a gage R&R report
- create designed experiments in JMP
- create cause and effect diagrams
- create control charts for continuous and attribute data.

Who should attend: Black Belts and Master Black Belts who want an overview of some of the features of JMP software or students with a breadth of statistical experience who want to be able to use JMP software

Delivery: Classroom and Live Web

Duration: 1.5 days or 3 half-day
Live Web sessions

Public course fee: \$860
(1.7 EPTO units)

On-site course fee: \$3,300
(7.5 EPTO units)

Yellow/White Belt - Basic DMAIC Problem Solving for Lean Six Sigma

This course is designed to present the basic DMAIC problem-solving methodology used in lean Six Sigma to understand the root cause of performance problems and to create breakthroughs in improvement. This is an essential course for any lean Six Sigma project leader or team member.

Learn how to:

- define and contain problems
- measure problems
- analyze data and determine root cause
- improve performance
- control and standardize the improvements.

Who should attend: Any lean Six Sigma project leaders or team members, specifically those working directly on problem solving, product and process development, business process improvement and corrective/preventative action using the DMAIC problem-solving methodology

Delivery: Classroom

Duration: 2 days

Public course fee: \$1,450
(2.8 EPTO units)

On-site course fee: \$9,200
(21 EPTO units)

Executives, including the CEO and other top managers, are responsible for providing the strategy and infrastructure for Six Sigma implementation.

Champions, including senior managers and process owners, are responsible for Six Sigma implementation, project selection and resource allocation.

Master Black Belts are expert Black Belts who devote 100% of their time to Six Sigma and are responsible for training and mentoring Black Belts and Green Belts.

Black Belts are team leaders who devote 100% of their time to Six Sigma and are responsible for mentoring Green Belts on all aspects of their process improvement projects.

Green Belts are business team leaders throughout the organization responsible for choosing, managing and leading process improvement projects.

Yellow Belts are subject matter experts on Green Belt projects who have a basic knowledge of Six Sigma and the DMAIC methodology.

White Belts are those in the organization who have a basic knowledge of Six Sigma and the DMAIC methodology.



SAS is the proven leader in helping you make data-driven decisions.

Six Sigma and Performance Excellence by SAS can customize a program for your organization. Whether you are looking for a full-scale Lean Six Sigma implementation, or you're simply interested in integrating Lean Six Sigma methodology into your organization to achieve performance excellence, we have a solution for you.

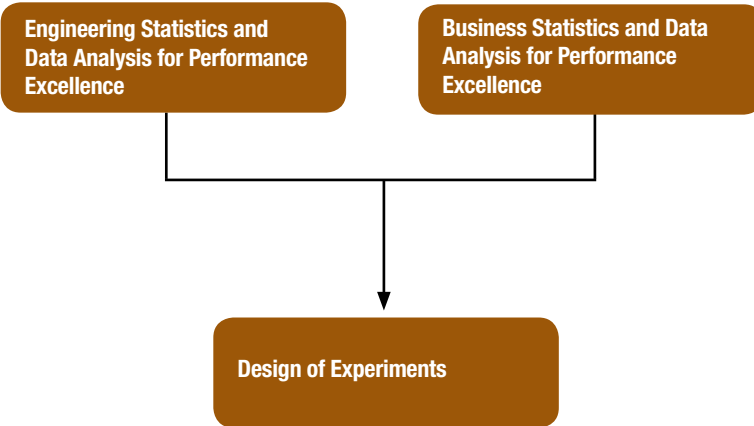
Using JMP Software as the analytical tool, Six Sigma and Performance Excellence by SAS will help you use your data to make fact-based decisions to improve yields, increase customer satisfaction, reduce waste and save costs.



Performance Excellence Manager

I integrate Lean Six Sigma methodology into my organization to improve operational performance.

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Advanced and Specialty Courses

- Robust Optimization and Tolerance Design
- Reliability Analysis
- Process Mapping Using Visio
- Voice of the Customer and QFD
- Failure Modes and Effects Analysis
- Lean Methods for Performance Excellence
- Design for Six Sigma: New Product Development

PERFORMANCE EXCELLENCE COURSES

Business Statistics and Data Analysis for Performance Excellence

This course focuses on the analysis of data for transactional, healthcare and banking applications. Foundation statistics, distribution analysis, capability assessment, sensitivity prediction, comparison tests, sample size selection and model fitting topics are included.

Learn how to:

- use data to solve business and transactional problems
- select appropriate analysis technique based on type of data
- understand the ideas associated with sampling and data collection
- demonstrate the ability to evaluate distributions
- select appropriate sample sizes for performance evaluation
- conduct comparative tests using data
- use regression techniques in order to analyze data and make business process improvements
- apply JMP to data analysis problems.

Who should attend: Six Sigma professionals, managers and business and marketing analysts who routinely analyze and interpret data about their industry, market, competition and customers, as well as their own business performance

Delivery: Classroom

Duration: 3 days

Public course fee: \$2,175 (4.2 EPTO units)

On-site course fee: \$13,800 (31.5 EPTO units)

Design for Six Sigma: New Product Development

This course introduces a complete set of ideas, methods, and tools for introducing products to the marketplace that are more likely to delight the customer and provide the desired features and functions, clearly defined customers and markets, fewer defects, the right price, and the correct availability.

Learn how to:

- develop a project charter and define high-level customer benefits and needs
- define and validate a measurement system
- analyze product/service design alternatives
- develop detailed product/service/process designs
- validate product and system reliability.

Who should attend: Individuals in research, development, design, manufacturing and marketing who routinely develop new products to meet customer needs

Delivery: Classroom

Duration: 10 days

Public course fee: \$7,250 (14 EPTO units)

On-site course fee: \$46,000 (105 EPTO units)

Design of Experiments

This course is designed for individuals working directly on product and process development to characterize, optimize and control product and process performance.

Learn how to:

- explain the fundamental principles of designed experiments
- create and analyze full factorial and screening designs
- create and analyze response surface designs
- augment existing experiments to address new questions about higher-order effects
- understand mixture designs, EVOP and Taguchi arrays

Who should attend: Engineers, scientists and Six Sigma professionals who actively work on any aspect of product and process development where the goal is to improve product and process performance

Delivery: Classroom

Duration: 2 days

Public course fee: \$1,450 (2.8 EPTO units)

On-site course fee: \$9,200 (21 EPTO units)

Engineering Statistics and Data Analysis for Performance Excellence

This course focuses on JMP basics, analysis of data for basic engineering and scientific applications including statistics, distribution analysis, capability assessment, variation analysis, comparison tests, sample size selection, hypothesis testing, confidence intervals and multiple factor modeling.

Learn how to:

- use data to solve engineering and scientific problems
- understand the ideas associated with sampling and data collection
- demonstrate the ability to evaluate distributions
- select appropriate sample sizes for performance evaluation
- conduct comparative tests using data
- use regression techniques in order to analyze data and make process/product improvements
- select appropriate analysis technique based on type of data
- apply JMP to data analysis problems.

Who should attend: Engineers, scientists and Six Sigma professionals who routinely analyze and interpret data about their products and processes

Delivery: Classroom

Duration: 3 days

Public course fee: \$2,175 (4.2 EPTO units)

On-site course fee: \$13,800 (31.5 EPTO units)

Failure Modes and Effects Analysis

This course provides instruction in the principles and best practices associated with Failure Modes and Effects Analysis (FMEA) methodology.

Learn how to:

- understand the various types of FMEAs
- apply the basic steps for FMEA generation
- know when and how to apply FMEA to product designs and internal processes
- identify potential design or assembly issues which will affect customer product performance and yields
- prioritize and manage improvement opportunities from FMEA results.

Who should attend: Individuals who work on various aspects of product development and manufacturing and come from many different backgrounds, disciplines and education levels and will be working on a variety of product and process areas across many departments of a company

Delivery: Classroom

Duration: 1 day

Public course fee: \$725 (1.4 EPTO units)

On-site course fee: \$4,600 (10.5 EPTO units)

Lean Methods for Performance Excellence

This course focuses on lean methods for achieving excellence in product, service and process performance. This course is written in support of all areas of business and or transactional processes, product design, development and manufacturing, and related infrastructure support groups. It covers the specific philosophies, concepts and tools related to achieving breakthroughs in cycle time, speed and waste elimination.

Learn how to:

- understand and apply lean concepts to routine problem solving and Six Sigma projects as well as to detailed process mapping
- understand and apply core lean concepts, principles and solutions
- identify value and waste in any operation
- integrate lean metrics into any process or activity
- use lean methods for cost reduction and customer satisfaction as well as value stream mapping
- use lean to improve flow of value to customers and speed.

Who should attend: Participants will come from all organizations and will be working on a variety of projects across the company

Delivery: Classroom

Duration: 2 days

Public course fee: \$1,450 (2.8 EPTO units)

On-site course fee: \$9,200 (21 EPTO units)

Process Mapping using Visio

This course provides instruction in the fundamentals of process mapping. In addition, participants will learn how to develop a process map and use them to identify improvement opportunities and conduct root cause analysis.

Learn how to:

- demonstrate process mapping skills
- link data to process flows using Excel
- create cross-functional process flow maps in Visio
- organize logical levels of detail
- add data to process flow maps
- edit and format process flow maps
- generate reports and summary statistics from process flow maps
- create value stream maps in Visio (optional).

Who should attend: Individuals who work on various aspects of product development and manufacturing and come from many different backgrounds, disciplines and education levels and will be working on a variety of product and process areas across many departments of a company

Delivery: Classroom

Duration: 2 days

Public course fee: \$1,450 (2.8 EPTO units)

On-site course fee: \$9,200 (21 EPTO units)

Reliability Analysis

This course is for individuals who need to assess and manage risk at different time intervals and in different environmental conditions. Participants will learn how to determine probabilities of certain events and minimize their occurrence through design, material selection, process modification or other strategies. The course will focus on distribution analysis, area under the curve estimation, hypothesis testing, thermal sensitivity, confidence intervals and multiple factor modeling.

Learn how to:

- determine product reliability performance as well as defect rates and sample sizes
- understand and apply nonparametric reliability analysis, recurrence analysis and parametric reliability analysis
- perform multivariate reliability assessment
- use Arrhenius transformations in reliability modeling
- use Chi-square for defect analysis
- select appropriate sample sizes for MTBF studies
- model reliability improvement using reliability growth models.

Who should attend: Individuals who actively work on any aspect of product and process development where the goal is to improve product and process performance

Delivery: Classroom

Duration: 1 day

Public course fee: \$725 (1.4 EPTO units)

On-site course fee: \$4,600 (10.5 EPTO units)

Robust Optimization and Tolerance Design

This course is designed for those individuals directly working on product and process development to characterize, optimize, tolerance and control product and process performance.

Learn how to:

- learn and apply the principles of robust product design
- design experiments appropriate for the information of interest
- use and apply the structures of orthogonal arrays for product and process development and problem solving
- ensure the experimental design is efficient
- use regression techniques in order to analyze the results and make process/product improvements
- use JMP software to design and analyze experiments.

Who should attend: Engineers, scientists and Six Sigma professionals who actively work on any aspect of product and process development where the goal is to improve product and process performance

Delivery: Classroom

Duration: 2 days

Public course fee: \$1,450 (2.8 EPTO units)

On-site course fee: \$9,200 (21 EPTO units)

Voice of the Customer and QFD

This course provides instruction on how to capture and summarize the voice of the customer (VOC), use this information to define product/service Critical-to-Quality (CTQ) characteristics and apply methods such as Quality Function Deployment (QFD) to incorporate these characteristics into detailed product development requirements.

Learn how to:

- use VOC to collect and summarize customer needs and wants
- establish all product or service development CTQ characteristics
- use QFD methods to develop detailed product or service development requirements
- ensure that product development requirements directly link to customer needs
- apply competitive benchmarking to development activities
- use JMP for customer data analysis.

Who should attend: Individuals who work on various aspects of product development and manufacturing and come from many different backgrounds, disciplines and education levels and will be working on a variety of product and process areas across many departments of a company

Delivery: Classroom

Duration: 1 day

Public course fee: \$725 (1.4 EPTO units)

On-site course fee: \$4,600 (10.5 EPTO units)

Training Discount Offers

Standard Discounts (US only):

Enterprise Professional Training Offer (EPTO) –

Corporate customers save up to 31% when you purchase pre-paid blocks of SAS training units in advance.

Early Bird Discount – Save 10% when you register and pay for a public classroom or Live Web classroom course at least 4 weeks in advance.

Group Discount – Save 15% when 2 or more students from the same organization register and pay for the same public classroom or Live Web classroom course together.

Take 3, Any 3 – Get three courses for the price of two AND receive a free gift.

Training Advantage Program – Save 20% when you pre-pay for five or more days of JMP or Six Sigma on-site training.

For more information, visit support.sas.com/training/discounts



Continuing Education Units (CEUs)

When you successfully complete JMP training courses, you earn Continuing Education Units. The CEU is a nationally recognized unit of measurement for continuing education courses and can be accumulated and documented for professional development.

Registration Information



1-800-333-7660



training@jmp.com



www.jmp.com/training

JMP® Public Course Schedule

Course	Location	Date
JMP® Analyst		
JMP® Software: ANOVA and Regression	Live Web	11AUG09
JMP® Software: ANOVA and Regression	Live Web	13OCT09
JMP® Software: ANOVA and Regression	Boston	05NOV09
JMP® Software: ANOVA and Regression	Cary	06AUG09
JMP® Software: Classic Design of Experiments	Live Web	18AUG09
JMP® Software: Classic Design of Experiments	San Francisco	08OCT09
JMP® Software: Custom Design of Experiments	Live Web	27JUL09
JMP® Software: Custom Design of Experiments	Live Web	26OCT09
JMP® Software: Custom Design of Experiments	Boston	09NOV09
JMP® Software: Statistical Data Exploration	Live Web	30JUL09
JMP® Software: Statistical Data Exploration	Live Web	27AUG09
JMP® Software: Statistical Data Exploration	Live Web	23SEP09
JMP® Software: Statistical Data Exploration	Live Web	22OCT09
JMP® Software: Statistical Data Exploration	Live Web	12NOV09
JMP® Software: Statistical Data Exploration	Live Web	03DEC09
JMP® Software: Statistical Data Exploration	Boston	04NOV09
JMP® Software: Statistical Data Exploration	Cary	05AUG09
JMP® Software: Statistical Data Exploration	Chicago	14SEP09
JMP® Software: Introduction to the JMP® Scripting Language	Live Web	13JUL09
JMP® Software: Introduction to the JMP® Scripting Language	Live Web	16NOV09
JMP® Software: Introduction to the JMP® Scripting Language	Boston	13AUG09
JMP® Software: Introduction to the JMP® Scripting Language	Cary	14DEC09
JMP® Software: Stability Analysis	Live Web	17DEC09
JMP® Software: Stability Analysis	Chicago	14SEP09
JMP® Software: Stability Analysis	Irvine	05OCT09

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