Lean Six Sigma Training Program

Online Black Belt Training

Black Belt trainings include the methodology needed to carry out a Lean Six Sigma project, to make decisions and solve problems, all basic process analysis and improvement methods, and statistical tools.

Online Black Belt training is a 141-hour virtual training program that corresponds to a 23-day Black Belt in-class training.

87 hours virtual /live classroom

35 hours of video training

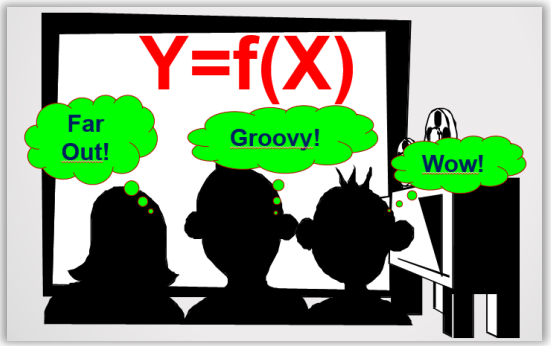
5 hours gamification questions

10 hours of project coaching

4 hours of final exam in the classroom

Black Belts carry out projects that will provide real and financial returns during their training and their success can be evaluated in monetary terms. Between each week of trainings, progress of the projects will be reviewed by MATRIS MBB's and coaching feedback report is shared with the executives via internet communication channels and shares.

Candidates who can demonstrate required skills during in-class practices, at intermediate exams, at the end of each training module, at the final exam after the training and who can successfully complete the LSS project deserves the "Successful Black Belt Certificate".



"Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write"

H. G. Wells

Who Can Participate: *Employees who are experienced, respected, have leadership qualities, are dynamic and have been assigned a real project by their organization.*

Required Hardware: *Laptop*

Required Software: *Microsoft Office applications and Minitab 21*

Define Phase:

- Introduction to Minitab (Video)
- Basic Statistics (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Lean Six Sigma and DMAIC methodology (Video)
- Project Selection and Identification – Project Charter (Video)
- Project Management (Video)
- Project Description and Project Plan Case Study (Virtual Classroom)
- Leadership: (Virtual Classroom)
    - Effective Communication
    - Change Management
    - Conflict Management
- Graphical Analysis Techniques -I- (Video)

Virtual Classroom and Exercises

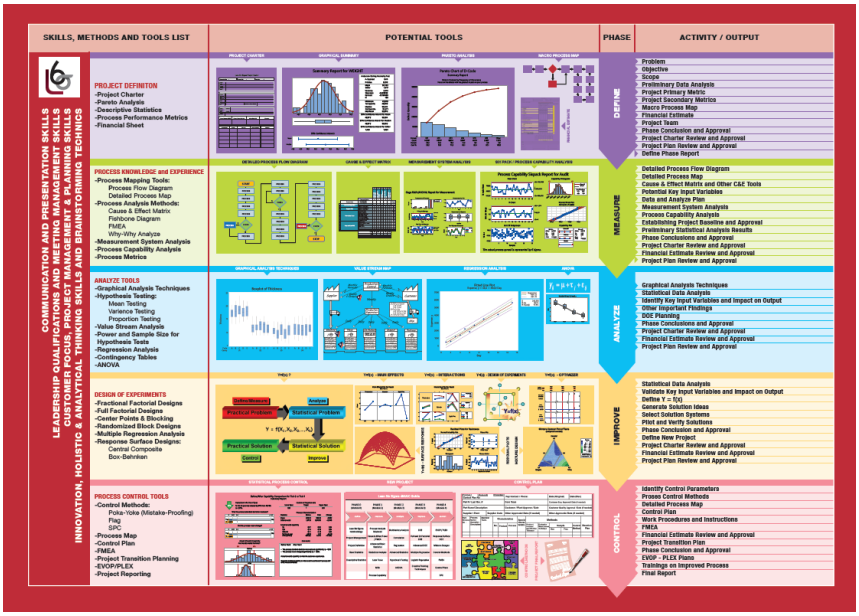
DMAIC Simulation

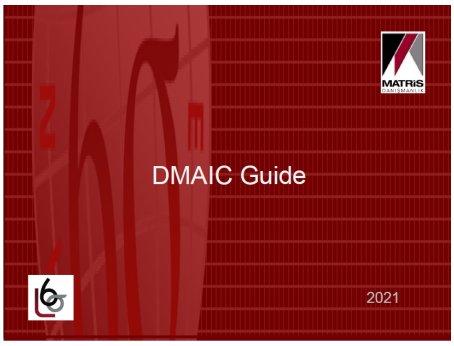
Project Prioritization Simulation

Communication Case Studies

Define Phase Exam

Project Presentations





Measure Phase:

- Advanced Basic Statistics (Video)
- Process Metrics (Video)
- Homework and Gamification Question Solutions (Virtual Class)
- Process Flow Chart and Process Map (Video)
- Cause and Effect Tools (Video)
- Homework and Gamification Question Solutions (Virtual Class)
- Process Capability Analysis (Video)
- Homework and Gamification Question Solutions (Virtual Class)
- Measurement Systems Analysis (Video)

Virtual Classroom and Exercises

Process Flow Chart Exercise

Process Analysis Exercise

Cause-Effect Simulation

Discrete Data MSA Simulation

Measure Phase Exam

Continuous Data MSA Simulation

Measure Phase Project Presentations

Process Capability Simulation

Analysis Phase:

- Graphical Analysis Tools -II- (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- CLT & Confidence Intervals (Video)
- Introduction to Hypothesis Tests (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Means Tests (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Variances Tests (Video)
- Proportion Tests (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Lean Thinking and Lean Techniques (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Sample Size for Hypothesis Tests (Video)
- Correlation & Regression Analysis (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Chi-Square Tests and Contingency Tables (Video)
- One-Way ANOVA (Video)

Virtual Classroom and Exercises

Hypothesis Testing Case Studies

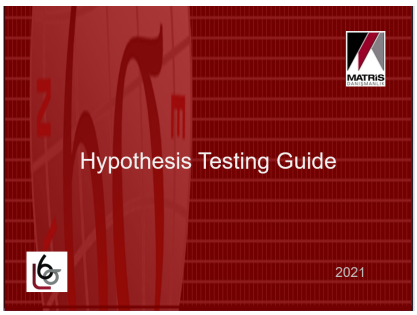
Value Stream Analysis Exercise

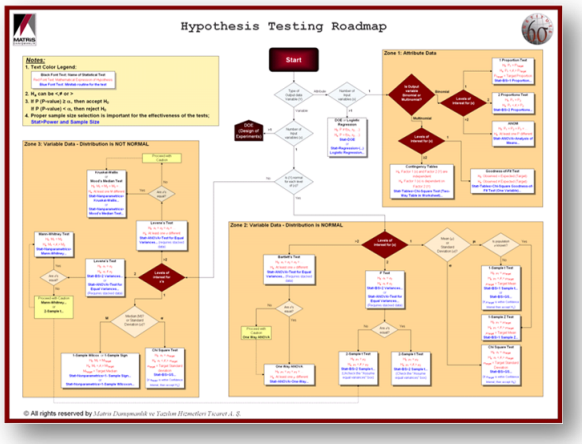
Effect of Sample Size Simulation

Analyze Phase Exam

Regression Analysis Simulation

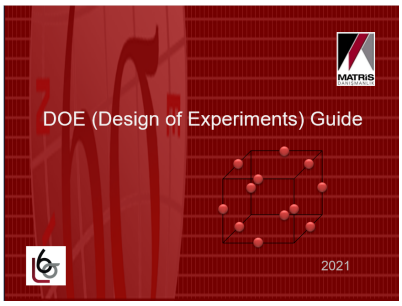
Analyze Phase Project Presentations





Improve Phase:

- One Factor Experiments with ANOVA (Video)
- Introduction to DOE (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Randomized Block Experiment Designs (Video)
- Full Factorial Experiment Designs (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- 2-Level Full Factorial DOE (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Project Management & Communication Skills (Video)
- 2^k Factorial Experiments - Center Points and Blocking (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Generating Solutions (Video)
- Fractional Factorial Experiment Designs (Video)



Virtual Classroom and Exercises

DOE Exercises

DOE Simulation

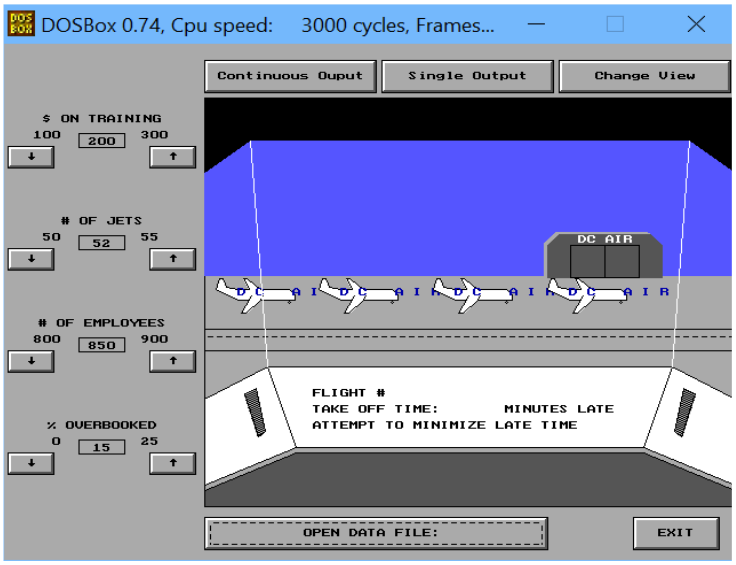
Communication Case Study

Generating Solutions Case Study

Improve Phase Exam

DOE Simulation - Catapult

Improve Phase Project Presentations



Control Phase:

- DOE Summary and Definitive Screening Designs (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Multiple Regression (Video)
- Response Surface Designs (Video)
- Homework and Gamification Question Solutions (Virtual Classroom)
- Mixture Design (Video)
- Logistic Regression (Video)
- Homework and Gamification Question Solutions (Virtual Class)
- EVOP/PLEX (Video)
- Control Methods (Video)
- Control Plans and FMEA (Video)
- Homework and Gamification Question Solutions (Virtual Class)
- SPC for Continuous Data (Video)
- SPC for Attribute Data (Video)
- Homework and Gamification Question Solutions (Virtual Class)
- Closing The Project (Video)
- Final Exam (In-Class)

Virtual Classroom and Exercises

EVOP Exercise

Control Plan Case Study

Response Surface DOE Simulation - Virtual

Control Phase Exam

Control Phase Project Presentations

Response Surface Analysis Simulation

In-Class Application

Certification Exam