



*IndianTM
School of
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SIX SIGMA BLACK BELT COURSE CONTENTS

PROJECT LEADERSHIP

Leadership roles & responsibilities
Organizational roadblocks & how to address them
Deploying Six Sigma in an organization

PROJECT MANAGEMENT

Benchmarking and replication
Planning tools & time management
Financial measures (NPV, IRR, Benefits)

PROJECT COACHING

Team facilitation (Team Stages)
Team performance evaluation and reward
Project tracking

RESISTANCE ANALYSIS & CHANGE MANAGEMENT

Identify resistance to change
Implement a plan to counter resistance
Stakeholder management

DMAIC

DEFINE PHASE

Voice of the customer - VOC (Survey Methods, Analysis of Survey Results)
Project charter
Identify owners and stakeholders
Project risk analysis

Quality Function Deployment (QFD)

Kano Model & Analysis

MEASURE PHASE

Process mapping & analysis (SIPOC, Functional Deployment Maps, VA/NVA Analysis)

Data types & collection plan (Continuous & Discrete data, Sampling)

Measurement systems analysis – Gage R & R (Continuous & Attribute, Nested)

Basic statistics & process capability analysis (DPU, DPMO/PPM, Sigma Level, C_p & C_{pk} , P_p & P_{pk})

Data Normality

ANALYZE PHASE

Hypothesis testing (Null & Alternate, Types of Errors, P values, Sample Sizes)

Relationship between variables (Regression, Logistic Regression)

Tests of means, variances, and proportions (t-Tests, ANOVA, Chi-Square, etc)

Identify and handle non-normal data (Non-Parametric Tests)

Lean tools and techniques to analyze data

IMPROVE PHASE

Idea generation (Brainstorming, Creative Thinking)

Design of Experiments (DoE) & analysis (Full & Fractional Factorial Designs)

Failure Modes and Effects Analysis – FMEA

Implementation of improved process

Lean tools to improve (Kaizen, Waste Elimination, Kaizen)

CONTROL PHASE

Statistical process control (ImR, XmR, Xbar-R, Xbar-S, C, U, P, NP Charts)

Lean tools for control (TPM, Visual Factory)

Sustain improvements (Control Plan, Lessons Learned, Documentation)

Financial reviews & validation (Hard and Soft Benefits)

ENTERPRISE VIEW

Integration of Lean and Six Sigma

Six Sigma and Project Management

Design for Six Sigma (DFSS) & Differences between DMAIC & DFSS

“ISPE’s Six Sigma Black belt program course contents focus & emphasize on the practical aspects of subject matter (Six Sigma), being directly applicable to real-time situations”.