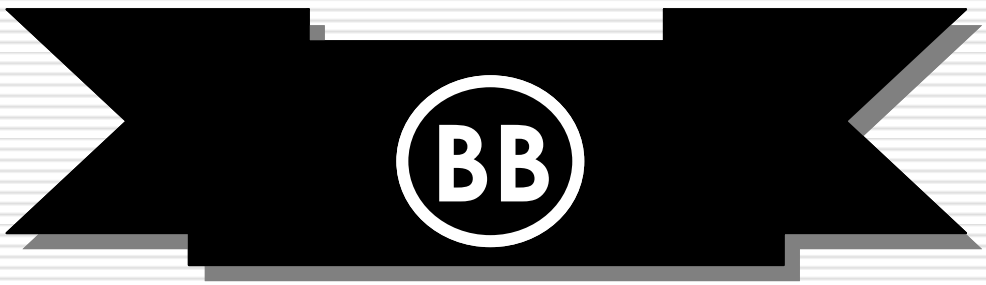
# Lean Six Sigma
# Black Belt Program




**Innovative Mindz**
**Consultants Pvt. Ltd.**

## Program Summary

Designed as per the syllabus prescribed by American Society for Quality, the program includes hands on practice of using various lean and six sigma tools. The key highlights of the program are:

- Conducted by experienced MBBs, who have trained over 2000 people across various global locations and worked in multiple industries. Their multi-industry experience helps them connect to trainees with ease and make the learning process a lot more easier.

- The training includes learning to solve complex statistical analysis with Minitab and also without Minitab (I.e. Using statistical tables / Microsoft excel)

- The training includes case studies, examples and exercises from different industries and scenarios.

Innovative Mindz specializes in the field of Lean and Six Sigma consulting and has conducted many Lean and Six Sigma workshops across the country for past 3 years.

## Certification criterion

Certificate of Completion:

- Completion of 10 days of training.
- Scoring more than 80% in the certification examination (conducted on the last day of training), the 4 hour exam consists of 150 objective type questions.

Black Belt Certification:

- Demonstration of application of tools learnt in the training through a project / case study.

## Details

| | | |
|---|---|---|
| City of training: | : | Delhi |
| Program Fee | : | Rs. 30,000/- per candidate |
| Discount | : | Early Bird Discount – 5% |
| | | Group Discount – 10% (>2 people) |

For Registration, please contact: leansixsigma@innovativemindz.com

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# Course Contents

Section 1: Quality Philosophy

(A): History of Improvement

1. History of continuous improvement
2. Value and foundations of Six Sigma
3. Value and foundations of Lean
4. Integration of Lean and Six Sigma
5. Business processes and systems
6. Six sigma and Lean applications

(B): Leadership

1. Enterprise leadership responsibilities
2. Organizational roadblocks
3. Change management
4. Six Sigma projects and kaizen events
5. Six Sigma roles and responsibilities

Section 2: Organizational Process Management and Measures

(A). Impact on stakeholders

(B). Critical to x (CTx) requirements

(C). Benchmarking

(D). Business performance measures

(E). Financial measures

Section 3: Team Management

(A). Team formation

1. Team types and constraints
2. Team roles
3. Team member selection
4. Launching teams

(B). Team facilitation
1. Team motivation
2. Team stages
3. Team communication
(C). Team dynamics
(D). Time management for teams
(E). Team decision-making tools
(F). Management and planning tools
(G). Team performance evaluation and reward

Section 4: Define
(A). Voice of the customer
1. Customer identification
2. Customer feedback
3. Customer requirements
(B). Project charter
1. Problem statement
2. Project scope
3. Goals and objectives
4. Project performance measures
(C) Process Mapping
SIPOC / Process Maps
(D). Project tracking

Section 5: Measure
(A). Process characteristics
1. Input and output variables
2. Process flow metrics
3. Process analysis tools

(B). Data collection

1. Types of data

2. Measurement scales

3. Sampling methods

4. Collecting data

(C). Measurement systems

1. Measurement methods

2. Measurement systems analysis

3. Measurement systems in the enterprise

4. Metrology

(D). Basic statistics

1. Basic terms

2. Central limit theorem

3. Descriptive statistics

4. Graphical methods

5. Valid statistical conclusions

(E). Probability

1. Basic concepts

2. Commonly used distributions

3. Other distributions

(F). Process capability

1. Process capability indices / Process performance indices

3. Short-term and long-term capability

4. Process capability for non-normal data

5. Process capability for attributes data

Section 6: Analyze

(A). Measuring and modeling relationships between variables

1. Correlation coefficient
2. Regression
3. Multivariate tools
4. Multi-vari studies
5. Attributes data analysis

(B). Hypothesis testing

1. Terminology
2. Statistical vs. practical significance
3. Sample size
4. Point and interval estimates
5. Tests for means, variances and proportions
6. Analysis of variance (ANOVA)
7. Goodness-of-fit (chi square) tests
8. Contingency tables
9. Non-parametric tests

(C). Failure mode and effects analysis (FMEA)

(D). Additional analysis methods

1. Gap analysis / Root cause analysis
3. Waste analysis

Section 7: Improve

(A). Design of experiments (DOE)

1. Terminology
2. Design principles
3. Planning experiments
4. One-factor experiments
5. Two-level fractional factorial experiments
6. Full factorial experiments

(B). Waste elimination
(C). Cycle-time reduction
(D). Kaizen
(E). Theory of constraints (TOC)
(F). Implementation
(G). Risk analysis and mitigation

Section 8: Control
(A). Statistical process control (SPC)
1. Objectives
2. Selection of variables
3. Rational Subgrouping
4. Control chart selection
5. Control chart analysis
(B). Other control tools
1. Total productive maintenance (TPM)
2. Visual factory
(C). Maintain controls
1. Measurement system re-analysis
2. Control plan
(D). Sustain improvements
1. Lessons learned
2. Training plan deployment
3. Documentation
4. Ongoing evaluation

Section 9: Design for Six Sigma (DFSS) Frameworks and Methodologies
(A). Common DFSS methodologies

## Customer Feedback

- An excellent training, very detailed and clear understanding of lean and six sigma tools - Team Manager at Deutsche Bank
- Conducted in the spirit of practical application, trainer ensured active participation – COO at Logix Microsystems
- Statistical concepts were explained in a very simplified manner, a very great learning experience – Purchase Executive at Timken
- Real life examples shared by the trainer made the training an interesting experience – Quality Analyst at SAP
- Coverage of topics was enormous, my previous Black belt training never covered so many concepts in so much of detail – Anonymous
- The atmosphere was excellent, sessions were interactive, clarification of doubts was excellent – Executive at Deutsche Bank
- Knowledge of trainer was good, material was exhaustive, Learning was fun and not boring – Team Manager at Oracle
- Experienced Faculty, Good Black Belt training at an affordable cost – Anonymous