

V: 07/08/24

Six Sigma Master Black Belt Program
By
Indian Statistical Institute, Chennai.

1.0 Introduction:

1.1 The main objective of our Master Black Belt program is to equip **certified Black Belts** to handle more complicated real life situations through the use of advanced statistical and mathematical methods. A certified Master Black Belt can not only handle cases which are conflicting in nature, they can also advise champions and/or the senior management on the various business strategies. These Master Black Belts also double up as Gurus, guides, project consultants and leaders.

2.0 Requirements:

2.1 The candidates must be certified Black Belts from reputed institutions or from their employers. They must have mentored atleast 3 Black Belt projects after their Black Belt Certification. They must have handled sessions for Black Belts / Green Belts, not less than 30 hours. They must have atleast 4 years of experience in Quality.

2.2 Sponsorship from the employers will be preferred.

3.0 Coverage (indicative):

Duration: 12 days

- a) Overview of Six Sigma Methodology
- b) DMAIC (BB, BOK) review
- c) DFSS / DMADV
- d) Business Strategies and Selection of Six Sigma Projects based on strategies.
- e) More In-depth Treatment of DMAIC:
 - i. Advanced Univariate / Multivariate Distribution
 - ii. MSA
 - iii. Multiple Regression Analysis, including logistic Regression
 - iv. Handling of Non-Normal Data
 - v. Advanced Design of Experiments – Full Factorial, Fractional Factorial Experiments through contrasts
 - vi. Taguchi Methods
 - vii. ANOVA, ANOCOVA & MANOVA
- f) Multivariate Methods
 - i. Chernoff Faces and other graphical methods, Multivariate methods like Cluster Analysis, PCA, FA, DFA.
- g) Reliability Theory
 - i. Non-repairable and repairable methods with applications
- h) TRIZ
- i) Time Series / Forecasting
- j) Mathematical Programming - Linear Programming and Goal Programming

- k) Mahanalobis Taguchi System
- l) Change Management and Concepts
- m) Overview of Engineering Process Control
- n) Overview of Machine Learning concepts
- o) Case Study presentation

4.0 Participation Charges:

5.1 Rs.50,000 + 18% GST per participant (online mode)

5.2 Rs.60,000 + 18% GST per participant (offline mode)

5.3 This includes course kit (for offline participants) and technical support.

5.0 Criteria for Certification:

- i. Minimum 80% in the test conducted at the end of the program.
- ii. Minimum 95% attendance.

Candidates qualifying the above criteria will be given with **provisional Master Black Belt Certificates**. The Master Black Belt participants holding the provisional certificates will be certified as Master Black Belt by Indian Statistical Institute, Chennai if they meet the following criteria:

- i. must have mentored at least 3 projects after the Master Black Belt test
- ii. must have handled at least 60 hours of training

6.0 About the Faculty:

Experienced faculty from ISI Chennai and guest faculty (ISI Certified MBBs / Senior Executives)

7.0 Contact Particulars:

7.1 Programme co-ordinators

7.2 Prof. G. Ravindran and Dr. D. Sampangi Raman,
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