

SIX SIGMA GREEN BELT

Course Content:

Fundamentals of Six Sigma, DMAIC & DMADV roadmaps, basis of improvement project selection, roles of six sigma change agents (champions, MBB, BB, GB), CTQ selection, determining bottom-line benefits of a project, process mapping, statistical thinking, types of data, six sigma metrics, brainstorming, concepts of mistake proofing (Poka Yoke), preparation of SOP, C&E diagram, FMEA, Pareto analysis, data visualization (histogram, box plot, run chart, probability plots etc.), descriptive statistics measures (central tendency, dispersion, skewness, kurtosis etc.), elementary probability distributions (Hypergeometric, Binomial, Poisson, Normal), tests of hypothesis, ANOVA, correlation & regression, control charts (I-MR, \bar{X} -R, p, c), process capability analysis ($C_p, C_{PK}, C_{PM}, C_{PMK}$), gage R&R study, etc.

TOPICS TO BE COVERED

1. Fundamentals of Six Sigma, DMAIC & DMADV roadmaps
2. Basis of improvement project selection, roles of six sigma change agents; CTQ selection
3. Statistical thinking, types of data,
4. Six sigma metrics,
5. Brainstorming, C&E diagram, FMEA, Pareto analysis, data visualization
6. Descriptive statistics measures
7. Elementary probability distributions
8. Tests of hypothesis
9. ANOVA
10. Correlation & Regression
11. Control charts
12. Gage R&R study
13. Process capability analysis
14. Demonstration with Software

Mode of Evaluation of Performance of Participants:

Continuous evaluation by the faculty in the form of assignments/projects.

Appropriate certificates will be awarded to the participants at the end of the course as per criteria specified below:

CRITERIA	AWARD
Satisfactory Performance* in at least 50% of the topics AND attendance in at least 50% of the sessions	Certificate of Proficiency
Satisfactory Performance* in less 50% of the topics AND attendance in at least 50% of the sessions	Certificate of Attendance
Satisfactory Performance* in at least 50% of the topics AND attendance in less than 50% of the sessions	Certificate of Participation
All other cases	NO Certificate