

Continuous Improvement Toolkit Wifee!ld-Class Performance Tools for Business and

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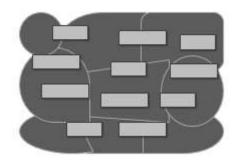
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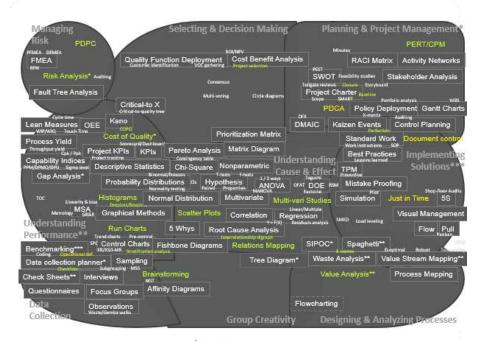
Six Sigma Black Belt Certification Guide

A Lean Six Sigma Black Belt

is a professional who can initiate and implement large-scale and crossfunctional Lean Six Sigma projects. He or she should



know how to apply advanced techniques and statistical methods. He or she should demonstrate team leadership, understand the various team dynamics, and should have the ability to teach and mentor Green and Yellow Belts. A Six Sigma Black Belt should demonstrate understanding and competence in using the tools illustrated in the following map:



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The Certified Six Sigma
Black Belt Body of
Knowledge (BoK) also
includes the following
topics which are
required for the
certification exam
(SSBB):

- Aligning Six Sigma objectives with organizational goals.
- Contingency and business continuity planning.
- Leadership roles and responsibilities.
- Common causes of Six Sigma failure.
- Readiness assessments.
- Communication plans.

Here are examples of the tools that are taught in any Six Sigma Black Belt training:

- RACI matrix (PDF).
- Kano analysis (PDF).
- Project charter (PDF).
- Process mapping (PDF).
- Process yield measures (PDF).
- Descriptive statistics (PDF).
- Probability distributions (PDF).
- Normal distribution (PDF).
- KPIs (PDF).
- Pareto analysis (PDF).

See all our downloadable PDFs which only cover the

- Six Sigma impact on stakeholders.
- Customer and financial measures.
- tools part of the Black Belt Certification. The other topics can be found on the left side of this web page
- Hard cost measures and soft cost benefits.
- Team types and constraints.
- Team roles and responsibilities.
- Selection of team members.
- Elements necessary for successful teams.
- Team motivation.
- Team communication.
- Stages of team development.
- Team leadership models.
- Conflict resolution techniques.
- Meeting management.
- Team decision making methods.
- Implement an effective training.
- Effective training delivery.
- Training evaluation techniques.
- Business case justification.
- Project problem statement.
- Periodic project charter review.
- Qualitative and quantitative data.
- Continuous and discrete data.
- Measurement scales.
- Measurement systems across the organization.
- Metrology.
- Population parameters and sample statistics.
- Central limit theorem.
- Valid statistical conclusions.
- Capability studies.
- Process capability for attribute data and non-normal data.
- Transformation techniques.
- Process performance vs. specification.

- Sort-term vs. long-term capability.
- Correlation and causation.
- Statistical vs. practical significance.
- Point and interval estimates.
- Tests of means, variances and proportions.
- Developing plans to implement improvements.
- Evaluate results to select the optimum solution.
- Rational subgrouping.
- Common and special causes.
- Training for process owners and staff.
- Ongoing evaluation of the improved process and continuing process measurement.

For more information about how to prepare for the exam and how to apply for the certification, visit the official Black Belt webpage on the American Society for Quality website.