

DFSS Black Belt Certification

Designing World Class Products and Processes



benchmark  six sigma
Inspiring Minds, Facilitating Excellence

All About DFSS Black Belt Certification

Program Objectives

Design for Six Sigma is a powerful methodology used for introducing new processes, new systems, and new products. It works on the concept of getting the product or process design right the first time. DFSS Black Belt qualified professionals like to create products and process that deliver Six Sigma or better outcomes.

Training Methodology

Training methodology includes Lectures, Q/A, Small Group Discussions, Review Sessions, Exercises, Tests, Hands-on practical problems, Demonstration, Case Study, Simulation, Role Playing, Teaching Others, Guided Practice with Feedback, Brainstorming, Problem Solving and Article Discussions.

Practice questions, and data for exercises are provided to all participants on the first day of the training. Team exercises are used throughout the workshop.

Course Duration

The course duration of the DFSS Black Belt program is 8 days. Divided into two parts, the first part of the training has a duration of five days and the second part has three days timespan.

Pre-requisites

The prerequisite for attending a Benchmark Six Sigma DFSS Black Belt program is - Completion of a globally accepted DMAIC Green Belt or DMAIC Black Belt training.

Certification Requirements

On the last day of the training, there is a 150 question multiple-choice exam that lasts 4 hours. The questions on the final exam include material that is covered in both parts of the training. All participants who get an overall score of greater than 70% will receive a certificate that indicates that they are certified based on examination.

An additional Project Completion certificate can be achieved by candidates who complete a valid Black Belt project and submit a project report within 3 years of completing the training program.



DFSS Black Belt Training

provides hands-on experience on real-world problems.



Why Choose Benchmark Six Sigma ?

- Most experienced and respected trainers and consultants.
- More than 15,000 Belts trained.
- Highest recognition and respect across sectors.
- Updated programs with latest inputs.
- Unique training and facilitation methodology with Multisensory impact.
- Complete Range of programs up to Master Black Belt Training.
- Regular programs in eight cities.
- Programs since 2001 with the best trainer retention.
- Unique after training support through very active web based forum and group activities.
- Unique after training support through chat sessions with Master Black Belts.
- Project completion support and certification at no additional cost.
- Conducted only by trainers with cross-industry implementation and leadership experience.
- Six Sigma and Lean Implementation (optional) follow-up with powerful Top/Senior Management Workshops within organizations.
- Recruitment & job support for companies and individuals.

DFSS Black Belt Content Outline

Part 1

- **Managing DFSS:** Managing DFSS - Organisational Technology Road Map and Multi-generational Product Planning.
- **Voice of Customer (VOC):** Initiating DFSS with VOC - Collecting, organising and prioritising VOC.
- **Quality Function Deployment (QFD):** QFD for DFSS using four Houses of Quality (HOQ 1, 2, 3, 4) and associated tools.
 - **HOQ 1** - Mapping VOC into prioritized Product CTQs.
 - **HOQ 2** - Mapping Product CTQs into Product Functions.
 - **HOQ 3** - Mapping Product Functions into Design Parameters.
 - **HOQ 4** - Mapping Design Parameters into Process Parameters.
 - Tools like Affinity diagram, Benchmarking, Function Tree etc which leverage the QFD output is also covered in this module.
- **Concept Generation:** Concept Analysis and Concept Synthesis using tools like Six Thinking hats, Twenty Questions, Idea Box, Morph Matrix.
- **Concept Evaluation:** Ideality and its relation with TRIZ. Step by step TRIZ.
- **Concept Selection**
- **Robust Design:** Robustness, metric for Robustness and planning of experiments for measuring Robustness.
- **Parameter Design:** Parameters as smallest building blocks of a product. Freezing on design parameters using DOE and Taguchi Designs.
- **Functional Analysis:** Product as collection of functions. Product as assembly of parts. Mapping of each function against assembly/sub-assembly or part(s).
- **Design FMEA (DFMEA):** Step by step methodology to map different function of a product with its failures, failure modes, causes and verification. Usage of tools like Function Block diagram, Pi-Diagram and Boundary Diagram in conjunction with DFMEA.

Part 2

- **Reliability:** Design for specific reliability target by establishing link between mathematical reliability model of a part/assembly and its failure mode.
- **Process FMEA (PFMEA):** Assessment and mitigation of process related risks.
- **Regression:** Regression Modelling to understand the critical parameters influencing the Product Design.
- **Response Surface Methodology (RSM):** Optimization using of DOE or Taguchi Test results.
- **Measurement System Analysis (MSA):** Ensuring that measurement error is minimized to an acceptable level.
- **Tolerance Design:** Studying tolerance associated with each design parameter. Tolerance design - Root Sum of Squares method and the Worst case method.
- **Design for Manufacture and Assembly (DFMA):** Ensuring that manufacturing and assembly is easy. Various aspects of DFMA with key focus on Mistake proofing.
- **Lean:** Concepts like 7 Wastes, Single Piece Flow, Heijunka, Kanban with respect to 5 lean principles as applicable to Design.
- **Control Plan:** Creating key documents necessary for sustainability of the project.
- **DFSS Scorecard:** Using DFSS scorecard for deployment of QFD from VOC to process parameters through CTQ and Functional and Design requirements.

Unique After-Training Support

When you undergo training from Benchmark Six Sigma, you become a member of a highly active web group. This helps you in many ways.

- You can view job postings and career discussions.
- Your queries are responded by people from industry of your interest.
- The responses are approved/moderated by our Master Black Belts.
- You get to know latest happenings in the Six Sigma community. You get to see challenges faced by people in various sectors.
- You get to view and download material uploaded by other participants.



If you compare Benchmark Six Sigma course contents with those offered by other leading providers-you will find that Benchmark covers is same or better. The advantage lies in the methodology of coverage where focus is on practical knowledge that is directly applicable to real-world situations.

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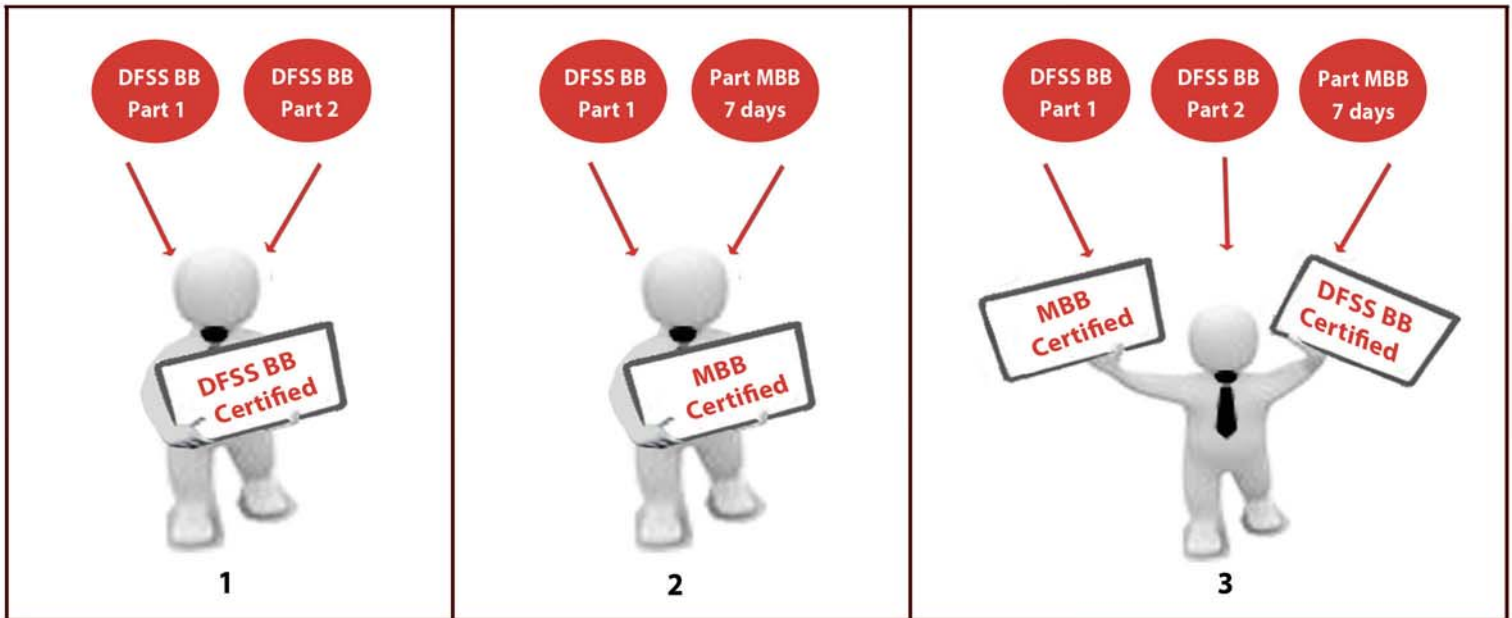
Progress towards Master Black Belt (MBB) Certification

While you undergo DFSS BB training, you complete a part of Exemplar Global Master Black Belt criteria. Business Excellence Master Black Belt certification is a modular program with 12 days of training. Completing part 1 of DFSS BB training, you are exempted from the following MBB modules:

- BPR Expert (2 days)
- Analytical Hierarchical Process Practitioner (2 days)
- Creativity and Innovation Practitioner (1 day)

After completing DFSS BB, you need to undergo just 7 more days of modular training program to get qualified as a Master Black Belt. Part 2 (6 days).

Get Certified taking up the following training workshop alternatives



Free Feature

Benchmark Six Sigma Learn & Share

- View Case studies from 41 industries.
- Study applications in 13 functions and interest areas.
- Share papers & articles.
- Participates in discussions.
- Enhance and showcase your benchmarks.

Visit www.benchmarksixsigma.com/globalnews/



Want to see Six Sigma success stories in a specific industry or function?

Visit Our Website

www.benchmarksixsigma.com

About Benchmark Six Sigma

Founded in 2001, Benchmark Six Sigma leads the change management workshops in India, Benchmark utilizes a wide variety of management techniques that have evolved over centuries to help client organizations and professionals address challenges and chart extra-ordinary growth paths.

Benchmark workshops have evolved as Industry best offerings in two formats. In the public workshops format, we offer globally recognized programs with content and methodology that can be used in practically any domain. In the customized in-company workshops format, Benchmark is known for its ability to design and deliver highly valuable programs with demonstrated applicability. Our in-company workshops are offered with or without consulting support.

While Benchmark has already initiated conduct of workshops in certain other parts of the world, years 2011 and 2012 are earmarked for initiation of Benchmark programs in continents across the globe.

Benchmark has industry experience across 41 industry sectors.

Benchmark Six Sigma Job Portal

- Explore jobs and gain competitive edge.
- Recruit people for your process excellence team at no cost. Get short listing support at nominal fee.

Public Training Locations



CORPORATE OFFICE
Benchmark Six Sigma, The Corenthum
2714, Tower A, 7th Floor, A-41, Sector- 62,
Noida - 201301

Regional Offices

BANGALORE

Level 14 & 15, Concorde Towers,
UB City 1, Vittal Mallya Road,
Bangalore - 560001
Tel : +919343217449
bangalore@benchmarksixsigma.com

CHENNAI

Chennai Citi Centre, Level 6, 10/11,
Dr.Radhakrishna Salai,
Chennai - 600 004
Tel : +919380615163
chennai@benchmarksixsigma.com

KOLKATA

BF -144, Salt Lake City,
Sector -1,
Kolkata - 700064
Phone: +9193310 04509
kolkata@benchmarksixsigma.com

MUMBAI

Level 2, Raheja Centre Point,
294 CST Road, Near Mumbai University,
Off Bandra-Kurla Complex,
Santacruz (E), Mumbai - 400 098
Tel : +9193234 32233
mumbai@benchmarksixsigma.com

HYDERABAD

Hyderabad Mid-Town
1st Floor, Mid Town Plaza
Road No. 1, Banjara Hills,
Hyderabad - 500034
Tel: +919391330353
hyderabad@benchmarksixsigma.com

MARKETING OFFICE FOR DELHI

SF 34, Ansal Fortune Arcade,
Block K, Sector 18,
Noida - 201301
Tel : +919810919501
delhi@benchmarksixsigma.com