▶DFSS Green Belt

Give Green Belts the skills to build high-quality, defect-free products and services.

Companies that aim to consistently exceed customer expectations rely heavily on their ability to design high quality, defect-free products and services. Yet few organizations consider their product and service development process to be a significant source of defects.

DFSS gets to the source of product and service imperfections by "designing-in" performance excellence from the earliest stages of research and development. By providing a disciplined approach to design, DFSS helps companies build new products and processes with greater reliability, Six Sigma quality and a higher performance-to-cost ratio.

> "The common thread that runs through BMGI's instructors is their passion for Six Sigma. They not only understand the methodology, but they have experienced first hand its power to achieve breakthrough results."
>
> — Doug Spears
> Six Sigma Director
> TAMKO

Course Description

BMGI's DFSS Green Belt training provides product and process designers with detailed knowledge and skills that complement their design expertise and enhance their ability to launch defect-free products. Students learn the critical skills they need to involve the right people, ask the right questions, receive the appropriate levels of support and use the right Six Sigma tools from the start. DFSS Green Belt was developed to enhance existing product and process design methodologies and can be deployed even if your company has not implemented Six Sigma.

DFSS Green Belt is built around the DMADV design methodology. DMADV (Define – Measure – Analyze – Design – Verify) is both a design process and a set of Six Sigma tools that students master through classroom participation and on-the-job application. To successfully complete this program, students must seek knowledge from a variety of sources, complete a DFSS project concurrent to training and pass certification exams.

Course Specifics

Who Should Attend: The course is most appropriate for individuals that are actively engaged in designing new products and processes. No prior Six Sigma experience required.

Course Length: 15 days (3 one-week sessions over the course of 3-5 months).

Course Includes: Training manual, data files and DFSS templates.

Course Requirements: Participants need a laptop computer running Minitab

Certification Requirements: Students are required to attend all classroom sessions, present project updates at the beginning of sessions 2 and 3, complete and submit a final report that demonstrates mastery of DFSS through application to an actual design problem and pass certification exams.

KEY LEARNING OUTCOMES

At the end of this class students will be able to:

- ❏ Lead small and mid-sized DFSS projects and support larger projects.
- ❏ Describe the objectives of each phase of the DMADV design methodology.
- ❏ Complete a project risk and financial analysis.
- ❏ Capture and analyze the Voice of the Customer.
- ❏ Carry out Measurement Systems and Capability Analyses.
- ❏ Develop detailed design requirements using methods such as CTQ Flowdown, QFD and Scorecards.
- ❏ Generate Design Concepts and evaluate them using FMEAs, Pugh Matrices and DFMAs.
- ❏ Quantitatively evaluate and develop designs using tools such as hypothesis tests and regression.
- ❏ Design, execute and analyze DOEs, Tolerance Studies and Reliability tests.
- ❏ Validate design performance using tools such as SPC.

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Course Agenda

DFSS Green Belt candidates are required to arrive at training with at least one potential project for execution over the course of the training program. Over a three to five month period, students undergo three weeks of classroom training, separated by several weeks of on-the-job application.

In between the training weeks, students apply the DFSS tools they've learned to their projects. Students are supported and mentored by Champions within their own organizations, and project results are reviewed and critiqued by instructors, classmates and Champion mentors.

▶ **Week 1**
Define and Measure Phases

- ❑ DFSS/Six Sigma Overview
- ❑ DFSS Phases and Deliverables
- ❑ Project Risk Analysis
- ❑ Project Financial Analysis
- ❑ Voice of the Customer (VOC)
- ❑ Intro to Minitab
- ❑ Basic Statistics
- ❑ Quality Function Design (QFD)
- ❑ Measurement System Analysis
- ❑ Capability Analysis
- ❑ Critical to Quality (CTQ) Flowdown
- ❑ Scorecards
- ❑ Project Planning

▶ **Week 2**
Analyze Phase

- ❑ Project Reviews
- ❑ Week 1 Review
- ❑ Concept Selection
- ❑ DFMA
- ❑ Failure Mode Effects Analysis (FMEA)
- ❑ Graphical Techniques
- ❑ Correlation and Regression
- ❑ Confidence Intervals
- ❑ Introduction to Hypothesis Tests
- ❑ Mean Testing
- ❑ ANOVA
- ❑ Proportion Testing
- ❑ Project Planning

▶ **Week 3**
Design and Verify Phases

- ❑ Project Reviews
- ❑ DOE Introduction
- ❑ Full Factorials
- ❑ 2K Factorials
- ❑ Fractional Factorials
- ❑ Tolerance Analysis
- ❑ Introduction to Reliability
- ❑ Reliability Data Analysis
- ❑ Control Methods
- ❑ Intro to Statistical Process Control (SPC)
- ❑ Variable SPC Techniques
- ❑ Attribute SPC Techniques
- ❑ Project Planning

BMGI holds this class regularly in cities around the world.

Classes can also be scheduled onsite for groups of six or more.

Curriculum is available for licensing.

BMGI
Unlocking Potential Delivering Results

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About BMGI?

Breakthrough Management Group International (BMGI), a global consulting firm, partners organizations to transform their business performance with a strong focus on delivering results. Today, BMGI is recognized as the world leader in harnessing the power of cutting edge techniques in the area of **Innovation, Strategy, Problem Solving** and **Business Transformation** for achieving tangible business results.

Headquartered in the US, BMGI has developed a loyal clientele across the globe. BMGI has partnered with organizations in various stages of their business life cycles and has delivered cumulative benefits of several billion dollars to its clients with an **ROI of 5:1** to **20:1**. In India, BMGI is located in Mumbai.

Why BMGI?

BMGI has provided training to thousands of professionals across diverse sectors, empowering esteemed corporations in India and around the globe. BMGI's Green Belt certification sets the standard for excellence in professional development, trusted by top-tier companies worldwide to drive innovation and operational success.

Solve Problems

Deliver Results

Be a Leader

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