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isd.engin.umich.edu/DesignforSixSigmaGreenBelt
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**Program Overview**

Design for Six Sigma (DFSS) is an evolving advanced practice that can be applied to all kinds of products, services, and system design to take process improvement to the next level. It is estimated that 70–80% of quality problems originate in product definition and design. One of the main themes of Design for Six Sigma (DFSS) is to move from reactive to predictive by designing quality into the product, instead of waiting until production starts and then finding and attempting to fix issues. In addition, DFSS can be an enabler for new product development.

**Two Skill Levels**

**Level 1, DSF Green Belt**, focuses on the core concepts and methods of applying the IDOV methodology within the new product development process.

**Level 2, DSF Black Belt**, explores more advanced statistical analysis techniques in the areas of design of experiments, Taguchi methods, robustness, optimization, and reliability analysis.

**Program Fees**

**Design for Six Sigma Level 1 Green Belt Online Program**

- $2,300 which includes QE tools statistical analysis software

**Design for Six Sigma Level 2 Black Belt Online Program**

- $2,000 without Minitab® software
- $2,890 with Minitab® software included

*Program fee at the time of brochure printing. Check our current program fee schedule at isd.engin.umich.edu. Fee subject to change. Pricing not valid for onsite or custom programs.

**Program Components**

This course involves viewing lecture modules, participating in student discussion boards, completing homework exercises, and case studies. Level 1 is comprised of 24 modules which are detailed below. Level 1 is 40–50 hours of material which students should be able to complete within 180 days or less. Level 2 is comprised of 16 modules (6 of the main themes are listed below). Level 2 is 30–40 hours of material which students should also be able to complete in 360 days or less.

**Level 1 DFSS Green Belt Modules**

- Course Introduction: New Product Development Challenges
- IDOV Methodology/Identifying Projects
- Defining Customer Requirements: Voice of the Customer
- Survey Analysis Methods
- Developing Functional Requirements/FAST Diagrams
- House of Quality
- Benchmarking
- Design Concept Generation
- Creativity and Innovation Tools
- TRIZ Overview

**Level 2 DFSS Black Belt Themes**

- Conventional Design of Experiments
- Taguchi Design of Experiment (Static and Dynamic)
- Response Surface Methodology
- Multi-Response Analysis and Desirability
- Central Composite Designed Experiments
- Reliability Analysis/ System Allocation

**Group Discount**

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**Custom Programs**

This program can be customized and delivered in person at your site. Call (734) 647-7200 or email MEonline@umich.edu to learn more.

**Program Instructors**

**PAT HAMMETT, Ph.D.**

As the Director of live and online Six Sigma programs, Dr. Hammett has provided education and training to more than 10,000 participants across a variety of industries. He is the lead developer of several widely acclaimed programs for healthcare, manufacturing, business processes, and other environments, as well as Design for Six Sigma, leading to certification at the Green Belt and Black Belt levels. He also teaches several pivotal undergraduate and graduate courses as part of the U-M Industrial Engineering, Manufacturing, and Integrative Systems + Design.

**DON LYNCH, Ph.D.**

is a Lean Six Sigma Corporate Master Black Belt for SKF, Inc. He holds a Ph.D. in Mechanical Engineering as well as an MBA. He has held positions in engineering, quality, product design and management at Ford Motor Company, Diamond Electric Manufacturing and Visteon Corporation. Dr. Lynch holds six ASQ certifications and is the author of many papers on Lean, Six Sigma and Continuous Improvement.
Design for Six Sigma Level 1 Certification Participants Receive Free QE Tools Software

The Design for Six Sigma Level 1 Certification course includes a copy of QE Tools statistical analysis software. QE Tools is a highly functional, user-friendly, Excel-based add-in tool designed specifically for Six Sigma. Students can use QE Tools to apply the various problem-solving tools and statistical analysis methods for their Design for Six Sigma project. The principal architects of the QE Tools software, Dr. Patrick Hammett and Dr. Luis Garcia-Guzman who are both actively involved in the University of Michigan’s Six Sigma Programs. Dr. Hammett is the primary developer of the University of Michigan’s Design for Six Sigma Program. This is an Excel tool that will make your job much easier!

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Dr. Hammett is the primary developer of the University of Michigan’s Design for Six Sigma Pricing not valid for onsite or custom programs.

All cancellation requests must be received in writing via MEonline@umich.edu. Once the program has been accessed refunds will not be given. Cancellation requests made prior to accessing the program will be subject to a $250 administrative fee. Check our current program fee schedule at isd.engin.umich.edu. Fee subject to change. Pricing not valid for onsite or custom programs.

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System V-Diagram: DFSS Tools

Design for Six Sigma

Level 1, DFSS Green Belt

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Program Prerequisites

Level 1: basic Microsoft Excel skills and an understanding of statistical analysis methods are recommended (e.g. Six Sigma Green Belt or equivalent).

Level 2: participants must have successfully completed our DFSS Level 1 course. In addition, this course requires the usage of Minitab® statistical software (or equivalent) and includes more advanced statistical analysis tools. Six Sigma Black Belt (or equivalent) is recommended.

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ABOUT IS+D
The mission of Integrative Systems + Design is to study and promote leadership in the design and creation of innovative products and systems. As a unit with a global focus in the College of Engineering, we develop and deliver programs that integrate multiple disciplines and are responsive to the needs of engineers, managers, and other professionals. Our students take courses on the Ann Arbor campus, online, and at off-campus locations around the world.

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