

Management and Strategy Institute, LLC.

Design For Six Sigma Certified (DFSSC)

Course of Study

Introduction

Design for Six Sigma (DFSS) uses the Six Sigma methodology to develop new products, services, or processes. The main objective of DFSS is to “design it right the first time” to avoid redoing or redesigning a new process.

Many industries find DFSS a great match for marketing, product, and new process development. DFSS reviews conceptual vulnerabilities and operational vulnerabilities while infusing quality design principles during the initial process design phase.

The DFSSC exam is a timed, online exam. It consists of approximately 50 questions and has a required passing score of 70%.

Competencies

This course of study covers the following competencies:

What is DFSS

- Design for Six Sigma (DFSS) uses the Six Sigma methodology to develop new products, services, or processes.
 - Learning Outcome: Basic understanding of DFSS

Quality Concepts

- There are a number of defined quality concepts. Each company or business will determine what quality means to them as defined by their customers.
 - Learning Outcome: We will look into specific quality measures and the details involved in obtaining them.

Pareto Analysis

- Pareto Diagrams and Pareto Analysis show a balance between effort and resources.
 - Learning Outcome: The Pareto principle states that 20% of inputs results in 80% of outputs. Gain a basic understanding of this system.

Six Sigma and Lean Fundamentals

- In order to fully understand Design for Six Sigma (DFSS), we'll do a quick review of Six Sigma and Lean Fundamentals so we see how these are tied together.
 - Learning Outcome: Have a basic understanding of Six Sigma and Lean principles.

Product Development Process

- Design for Six Sigma uses a product development process which is similar to a map of the expectations of what will happen with a product throughout its life cycle.
 - Learning Outcome: Learn the primary steps in the DFSS knowledge based approach.

DFSS Deployment Strategy

- The product development is necessary to ensure quality is designed into the process. A DFSS deployment strategy should be developed within your organization to articulate the concepts of the DFSS plan and mission.
 - Learning Outcome: Learn the principles, policies, goals, and key result areas for management and operations of DFSS activities.

Phases

- Design for Six Sigma has the following four phases: Identify requirements, Characterize the design, Optimize the design, Verify the design.
 - Learning Outcome: Learn the objectives of each phase.

Design for Six Sigma Project Algorithm

- The design project is the core of DFSS deployment and can be consistently performed using the DFSS project algorithm. It outlines the principles, tools, and methods to be used within the organizational processes to infuse DFSS.
 - Learning Outcome: Understand the DFSS algorithm. The objective of the algorithm is to develop design elements which incorporate the Voice of the Customer and their requirements.

Customer Requirement Creation

- Identifies what the customer wants based on normal expectations and exceeding expectations.
 - Learning Outcome: Learn the model for customer retention.

The Voice of the Customer

- Defining the Voice of the Customer (VOC) includes what the customers' requirements are for products and services and what their expectations are (both positive and negative), including likes, dislikes, problems, and suggestions.
 - Learning Outcome: The VOC asks what each customer desires specifically. Learn to understand the voice of the customer.

Design for Six Sigma Scorecards

- Design scorecards are used for gathering data, determining quality, and modifying design elements before a product or service is actually built.
 - Learning Outcome: DFSS scorecards allow for proactive corrective action, learn the basics of Scorecards.

Additional DFSS Processes

- Axiomatic Design, Theory of Inventive Problem Solving (TRIZ), Failure Mode-Effect Analysis, Fundamentals of Experimental Design, Tolerance Design
 - Learning Outcome: Have a basic understanding of the follow processes - Axiomatic Design, Theory of Inventive Problem Solving (TRIZ), Failure Mode-Effect Analysis, Fundamentals of Experimental Design, Tolerance Design

Learning Resources

Recommended:

Material included with your purchase is required reading.

- Free online training material provided by MSI. The material includes everything you will need to learn to pass the exam. This material is included for free with the purchase of your exam. It is in digital form, and available immediately after payment.

Optional:

This material is not required, however it will assist you in becoming DFSS Certified.

- Kai Yang, Basem El-Haik (Sept 2008), Design for Six Sigma: A Roadmap for Product Development 2nd Edition, ISBN-13: 978-0071547673
- Ade Asefeso MCIPS MBA (Jun 2014), Design for Six Sigma: DFSS, ISBN-13: 978-1499775440

Preparing for Success

In order to successfully complete the DFSS exam, you will need to make sure you have the appropriate resources to support your learning.

- A quiet location, free from distraction.
- Internet access.
- Current (newest) version of Internet Explorer, Firefox, or Chrome browser.
- Take study notes while going through the training.
- When you are ready to take the exam, you should allot 2-hours of time.

Frequently Asked Questions

What happens if I fail the exam?

- You are given two additional attempts to pass the exam at no additional cost.

Will I receive Professional Competency Units (PCU's)?

- Yes, the DFSSC exam awards 20 PCU's upon passing of the exam.