Design for Six Sigma – Product Design

Course Content and Outline

SUMMARY

This Design for Six Sigma course is comprised of six separate sessions. Each session is a collection of related lessons, and includes an interactive quiz at the end of the session. Many of the lessons include interactive practice exercises. All course material is available online, and sessions may be started and stopped at any point - content is delivered on-demand according to your schedule.

By completing this course of study, you will gain a solid general knowledge of the tools, methods and best practices necessary for developing products and processes that can meet Six Sigma levels of quality.

It is important to understand that the DFSS course itself does not represent a generic development process. The course is laid out as a process to facilitate orientation to your organization's own development process. After going through the course and understanding the purpose and application of the various tools, methods and best practices, you should compare the content of the course to the tools, methods and best practices in your organization's development process.

This process of comparison will highlight gaps between your organization's process and its potential as a DFSS development process. You will then be able to close the gap by integrating the missing material into your organization's process.

LEARNING OBJECTIVES

The overarching learning objective of this course is to introduce a set of best practices and methodologies essential for developing product or process designs that meet customer requirements at the highest possible level of quality.

After completing this course, you should be able to do the following:

- Communicate using Design for Six Sigma concepts.
- Identify areas within your existing development process where DFSS is needed.
- Integrate DFSS into your existing development process.
- Select optimal product or process design concepts.
- Use analytical and experimental methods to develop robust and reliable designs.
- Modify designs for optimal performance based on variability of the inputs and desired outputs.
- Verify that the designs meet the requirements at the desired level of performance.
- Employ your Design for Six Sigma skills to lead a successful development project delivering meaningful results to the organization.

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PREREQUISITES

Participants in this course should have previously mastered the Six Sigma Black Belt body of knowledge, specifically including Measurement System Analysis, Multiple Regression Analysis, and basic Design of Experiments. If you have not mastered this body of knowledge, MoreSteam.com provides a Six Sigma Black Belt course, which would provide appropriate preparation.

COURSE STRUCTURE AND REQUIREMENTS

MoreSteam courses provide content-on-demand to offer the highest degree of student flexibility. You can set your own schedule and progress at your own speed, terminating and re-entering sessions whenever you wish.

All course sessions use a mix of multimedia to present material, including text, synchronized audio slide shows, diagrams, charts, audio lectures, and simulations. Links to outside research resources are provided to explore chosen subjects in greater detail. Course access is provided for **365 days** beginning at the time of enrollment.

As you work through the course you will be asked to demonstrate knowledge and understanding in four ways:

- Interactive **Practice Exercises** will be presented throughout each session so that you can try your new skills and get immediate feedback.
- **Supplemental Exercises** will be presented at the end of every session to practice new concepts. Supplemental Exercises are self-graded and may be shared in the Virtual Classroom Discussion area.
- **Quizzes** will be conducted at the end of every session. Quizzes are interactive, and provide immediate feedback to close the learning loop.

COURSE SEQUENCE

The course is presented in a logical sequence to follow the DCDOV representation of DFSS. We believe that you will learn most efficiently by following the sequence presented. The sessions are modular, and we encourage you to explore the material. You are free to move forward and backward throughout the course. You can skip ahead or go back and review material that you already covered.

The course map feature allows you to move point to point, from anywhere to anywhere. The course map status column will tell you which pages you have not visited.

CERTIFICATE OF COMPLETION

Upon completion of this course (review of all lessons and completion of quiz modules), MoreSteam will provide you with a certificate of training completion.

COURSE MATERIALS

Materials Provided by MoreSteam

- Process Playground™, MoreSteam's online discrete simulation tool, is available for free in the Optimize session.

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- Microsoft Excel templates for statistical analysis, available as downloads within the course material.

Materials Provided by Student/Company

- General-purpose statistics software is useful but not necessary. Excel templates are provided by the course for statistical analysis. If you do not have a statistics package, options range from free internet downloads to higher-end packages like Minitab, Statistica, JMP, etc. You can download a 30-day evaluation copy of most statistics packages over the web.
- Microsoft Office (Word, Excel, PowerPoint). Office 2000 or higher is recommended. Office 97 does not take advantage of all Excel template features.

SUPPORT

- Use the on-screen Help feature for a glossary of terms and site search.
- You can contact the course Instructor by emailing during regular business hours to request assistance.
- For general technical support, visit our support page under the "My Account" link.

Updated: 2/15/2018

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