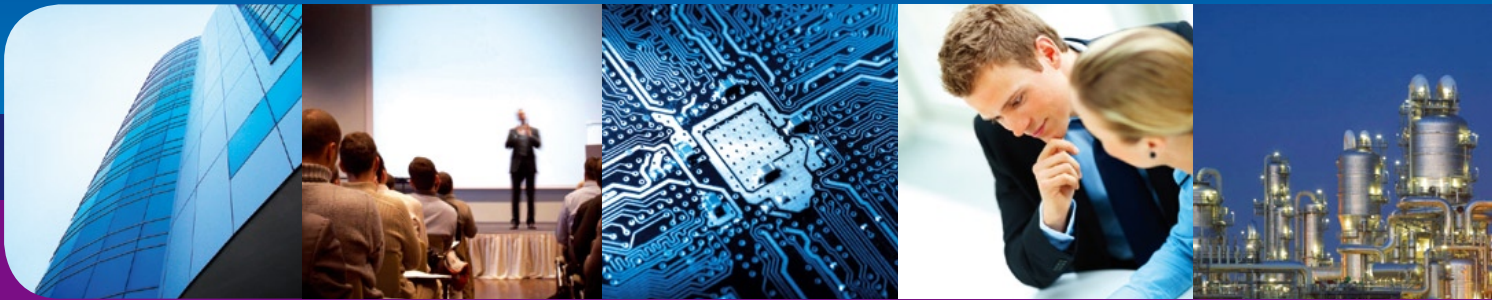


Design for Six Sigma

5 Days (1 block) – Open Access Training



Use the power of DfSS to ensure future competitiveness

The guarantee of future competitiveness of an organisation is dependent on the design of superior products, services and processes and an efficient, fault-free operation. SigmaPro's DfSS (Design for Six Sigma) supplement programme has enabled experienced users and practitioners to learn and expand their Lean Six Sigma knowledge and apply it to the design of new products, processes and services.

Course purpose & aims

The programme is designed to show participants how the DfSS approach to product, service and process design enables organisations to clearly quantify requirements, identify and minimise risk and optimise robust new designs in rapid timescales. The end result is more effective new products, services and processes produced in shortened timescales. You will learn how to:

- ✓ Embrace the issues involved in developing, deploying and sustaining a successful DfSS programme
- ✓ Integrate DMADV and DMAIC into an overall improvement approach for the organisation
- ✓ Effectively run DfSS projects
- ✓ Capture and analyse qualitative VOC data using an integrated toolset
- ✓ Use TRIZ to generate alternative design concepts
- ✓ Identify critical design elements and variables in new products and processes
- ✓ Optimise design performance by using transfer function analysis, modelling & simulation
- ✓ Predict real world system and product performance using reliability analysis
- ✓ Bring new products processes and services to market with a process performance approaching Six Sigma performance levels

Who is this course for?

DfSS practitioners will be capable of working with others involved in developing new products, processes and services, and coaching them in the use of tools and methods designed to achieve faster timescales and better quality. They will work with senior management to ensure the correct selection of projects for the DfSS approach.

This programme is designed for individuals who have completed Lean Six Sigma Black Belt, Green Belt or Master Black Belt training, or those who have a strong technical design background with some knowledge of Lean Six Sigma. DfSS participants ideally need to have Lean Six Sigma DMAIC project experience in a service or industrial organisation.

“The DfSS course surpassed my expectations both in terms of the content and trainers delivery. Overall the course has set my learning path for life”



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What does the programme cover?

The course consists of 20 modules, taught over 1 week (5 days). Students will gain an in-depth knowledge of the Design for Six Sigma strategy, and how the DMADV (Design, Measure, Analyse, Design, Validate) methodology can be integrated with DMAIC to form a holistic approach to organisation-wide improvement.

Programme includes:

Deploying Design for Six Sigma in industrial and service organisations

- The business case for DfSS
- DfSS project identification and definition in different environments
- Portfolio management to select the best mix of projects
- The DMADV methodology

Generating design requirements

- Generating & Selecting concepts
- The theory of inventive problem solving (TRIZ)
- Defining system architecture

Analysing design elements

- Defining critical design elements
- Fault tree and failure mode analysis
- Identifying critical design variables

Carrying out the detail design

- Univariate analysis of variance
- Non parametric statistics
- Advanced transfer function modelling & experimentation
- Simulation and optimising of design systems and processes

Validating the design

- Process simulation and pilot studies
- The Monte Carlo method
- Developing control plans
- Advanced reliability analysis

Software solutions for DfSS

- Advanced use of Minitab™ 16,
- Introduction to SigmaWorks™ & ProcessModel™

Course structure

The programme is a mix of classroom teaching, individual and group exercises, case studies and real world examples. Accelerated Learning approaches are extensively used to ensure rapid learning and maximum knowledge retention. During the course students actively practice the application of the tools and methods and use the software. Students are encouraged to share their own experiences with the training group.

Some course tuition is on state-of-the-art statistical and analytical software packages including Minitab™ 16, SigmaWorks™ and ProcessMode™. Trial versions are provided during training and full licenses can be purchased through SigmaPro.

DfSS certification

Upon successful course completion students will receive a certificate of training competence.

Benefits to the organisation

- ✓ Six Sigma originated with Motorola, and started out as a quality improvement programme in the early 1980's. Motorola won the Malcolm Baldrige award for Excellence in 1988 and by the mid 1990's they had 60% of the mobile phone market, shareholder growth of 54% and were outperforming the NASDAQ index by 4:1
- ✓ GE adapted Six Sigma in 1995, and the annual report in 1997 quoted that "Six Sigma has spread like wildfire across the company, and it is transforming everything we do." After 10 years GE claimed savings of over \$10Bn for their programme and in May 2009 were listed in number 1 slot on the Forbes list of the world's biggest companies. Between 1996 and 2005 the GE stock price has outperformed the NASDAQ index by almost 2:1
- ✓ Toyota Motor Corporation developed the Toyota production system. The same approach has been adopted in many organisations in different sectors, and has become known today as Lean. A UK study looked at 500 lean projects across a variety of industries over 5 years, and calculated the average benefit to the organisation of £150K per lean event. A global study of 3,000 six sigma projects by Mikel Harry showed the average value per project to be £100K.

Prices

First delegate - **£2,250+ VAT**

Second delegate - **£2,025 + VAT**

Third & subsequent delegates - **£1,800 + VAT**

“Trainer was extremely professional & adapted well to the specific requirements of the class. Excellent facilitator, and excellent course overall”

“The knowledge and skill of the trainer was amazing, the best tutor I've ever experienced. I really enjoyed the course, and am glad I chose SigmaPro”