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Short Term Course

On

Six Sigma Fundamentals and Applications

February 27-29, 2012



Organised by
Department of Industrial
Engineering and Management
Indian Institute of Technology
Kharagpur 721 302
INDIA

Introduction

Organizations of all types and sizes worldwide are facing steep challenges for their survival and sustenance in the market. Customers expect more quality and value for their investment. At this juncture, the companies need to ensure a major quality revolution through improved and sustainable product design, process planning and design, and valued services to the customers. Six-sigma program encompasses and implements a wholistic view to achieve the above. Companies like Motorola, Sony, Nokia, American Express and others enjoy huge competitive edge over their counter parts in the marketplace because they implemented Six-sigma into their organizations.

Six-sigma is a statistical measure of variability in a given process. Variation is the cause of defects or out of control processes. When an organization has achieved a Six-sigma rate of improvement, it has limited defects to 3.4 per million, which is virtually defect free performance. Six-sigma consists of a well structured methodology which requires to be applied and integrated up and down the organization for achieving significant results. Adopting and applying Six-sigma methodologies can lead to dramatically improved business performance and bottom line profitability. Six-sigma is not designed solely for manufacturing enterprises. Financial institutions, healthcare organizations, and service providers are also reaping the benefits of Six-sigma deployment.

The Indian industries and business enterprises in general have also been aware of the potential of Six Sigma for achieving excellent and all out organizational

performance. A well-trained group of personnel cutting across different functions and department of an organization is a prime necessity in order to achieve the goal of Six-sigma. IIT Kharagpur, being an internationally recognized technical institution of India having a number of experts with proven knowledge, expertise, and research capabilities in quality engineering, control and management, offers this short term course on Six Sigma Fundamentals & Applications to provide business and industry professionals with valuable insight into the big picture issues required for successful implementation of Six Sigma at an organizational level.

Academics with proven knowledge, industrial experience, and demonstrable ability in teaching, consultancy, research, and training in the field of Six-sigma and related areas will deliver and demonstrate lectures, tutorials, laboratory experiments, and cases in the short-term course.

Objectives of the Course

The primary objectives of the course are as follows:

- i) Exposing participants to the fundamentals of Six Sigma methodology, tools and techniques vis-à-vis implementation issues,
- ii) Building in confidence and capability amongst the participants in mapping the organizational activities and problems in terms of Six Sigma framework,
- iii) Providing exposure to the participants on Six-sigma applications through case studies and live projects.

Course Contents

The course will address the following main issues:

- i) Present industrial situation and relevance of Six-sigma
- ii) Theory and principles of Six-sigma
- iii) Six-sigma methodology
- iv) Tools and Techniques of Six-sigma
- v) Implementation of Six-sigma

The following specific topics will be covered in the course:

Present industrial situation and relevance of Six-sigma: Quality revolution and industrial needs, Competitive edge, Customer focus, Definitions of Six-sigma and success stories, Benefit from Six-sigma.

Theory and principles of Six-sigma: Six-sigma framework, preconditions/ creating environment for launching Six-sigma program, Elements of successful deployment.

Six-sigma methodology: DMAIC – the Six Sigma improvement process; DMAIC: Define, Measure, Analysis, Improve and Control – objectives, process thinking, tools and techniques, best practices and lessons learned.

Tools and Techniques of Six-sigma: Exploratory tools – Charts, diagrams, and metrics; Data collection and monitoring tools – primary and secondary data, instrument design and sample survey, gage R&R, and attribute measurement systems, SPC and DOE; Analysis tools – Diagrams, Hypothesis testing, ANOVA, correlation and regression (linear and logistic), and FMECA.

Successful Implementation of Six-sigma.

Course Schedule

9 am to 5 pm with 2-hour lunch break on each day. The lecture will be delivered by the coordinators, faculty members of IIT Kharagpur, and experts from industries.

Training Methods

The methods consist of lecture sessions, hands-on-exercises, discussions on cases, and live problems.

Eligibility

Executives and engineers from marketing, purchase, production, R&D, HRD, administration, and IT of manufacturing and service organizations; scientists from research laboratories; and teachers from technical institutions.

Course Coordinators

Prof J Maiti

Principal Coordinator, Department of Industrial Engineering and Management, IIT Kharagpur, and

Prof P K Ray

Coordinator, Department of Industrial Engineering and Management, IIT Kharagpur.

Address for Communication

All queries regarding the course may be addressed to:

Prof J Maiti

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Tel: 03222 – 283750 (O), 283751 (R)

Fax: 03222 – 282272 / 255303

Email: jmaiti@iem.iitkgp.ernet.in
Jhareswar.maiti@gmail.com

Prof P K Ray

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Fax: 03222 – 282272 / 255303
Email: pkp@hijli.iitkgp.ernet.in

Application and Fee

The interested participants are requested to apply to one of the coordinators by filling in the Registration Form provided with the brochure. The total number of seats is restricted to 30. The participants will be selected on “first-cum-first-served” basis out of the eligible candidates.

The fee for the three-day programme is Rs. 20,000/- per participant.

Payment is to be made through a bank draft drawn in favour of “CEP-STC, IIT Kharagpur” payable at Kharagpur. The course fee includes course materials, participation fee and lodging at the quest house. **However, the participants require to pay for boarding at the New Technology Guest House (NTGH).**

Accommodation

The course will be held at IIT Kharagpur, Kharagpur 721302, West Bengal, India. The participants will be provided with single bed accommodation in the institute’s New Technology Guest House (NTGH).

**Short Term Course on
Six Sigma Fundamentals and
Applications**
(February 27-29, 2012)

Registration Form

1. Name: _____
2. Affiliation: _____
3. Educational Qualification: _____

4. Address for Correspondence: _____

- Telephone: (O) _____
(R) _____
(M) _____
- E-mail: _____
5. Bank Draft Details:
Draft No. _____ Date _____
Amount Rs. _____
Bank _____ Branch _____

Signature of the participant

Signature of the Sponsoring Authority
(with seal)