



Design & Analysis of Experiments

... for Technicians, Engineers, Managers & Continuous Improvement Practitioners

Throughout the instructional process, candidates discover how to design and analyze experiments in a scientific manner for solving critical manufacturing, engineering, service, administrative, and business process problems. The focus is on the in-depth understanding and application of DOE techniques and analysis.

Course Curriculum:

Statistically designed experiments (DOE) plays a critical role in process optimization and Six Sigma. DOE's identify the vital few process inputs that significantly affect the process output. Once the vital few process variables have been identified, empirical models may be developed and used to maximize the process output by optimizing the process inputs. To assure optimal operating conditions are sustained, tolerances may be established and applied to the process inputs. We can then monitor vital process inputs and know when they become unstable. When this is the case, we may immediately react to the process inputs before the quality in the process output suffers. The result is a process that yields a product or service that has enhanced reliability, lower defects, higher quality, faster cycle times, and lower costs.

This course is about planning, conducting, and analyzing experiments to arrive at valid and objective conclusions. The emphasis will be upon the effective use of techniques for experimentation, with the primary objective always being to achieve process optimization.

This important course will enable you to walk away with an in-depth understanding of:

- ▶ Designing the Response Variable
- ▶ Properties of Designed Experiments
- ▶ Overview to Designed Experiments
- ▶ The Randomized Complete Block Design
- ▶ Multi-Level Full Factorial Experiments
- ▶ Factorial & Fractional Factorial Experiments
- ▶ Graphical Analysis of Unreplicated Experiments
- ▶ Response Surface Methodology
- ▶ Simulation & Tolerance Design

Highlights and Outcomes:

- ▲ Design & conduct experiments.
- ▲ Identify sources of variation & mathematically explain the cause & effect relationship.
- ▲ Interpret findings and suggest areas for improvement in the process.

Course Materials:

All materials are easy to follow, user friendly, and have been knowledgeably prepared to communicate a complete understanding of the techniques and analysis employed. These materials will be a valuable reference in your future endeavors.

Participant's shall receive a Certificate of Completion.

Registration:

If you wish to attend this Six Sigma course you may register online at www.tkmg.org/ContactUs. Please fill out the Contact Us form with your specific request and we will contact you to discuss payment options and confirm your registration.

Program Specifications:

- ▲ **Audience** - Technicians, Engineers, Managers, & Continuous Improvement Practitioners
- ▲ **Length** - 5 Days
- ▲ **Delivery Process** - Classroom / Lecture with class participation
- ▲ **Materials** - Participant workbooks w/ examples & class exercises
- ▲ **Instructional Leader** - Knowledge Management Group Practitioner
- ▲ **Class Size** - 7 to 14 participants

About Us:

The Knowledge Management Group is an established & proven service organization that is an authority in the application of statistical methods and Six Sigma to improve business performance.

Contact Us:

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