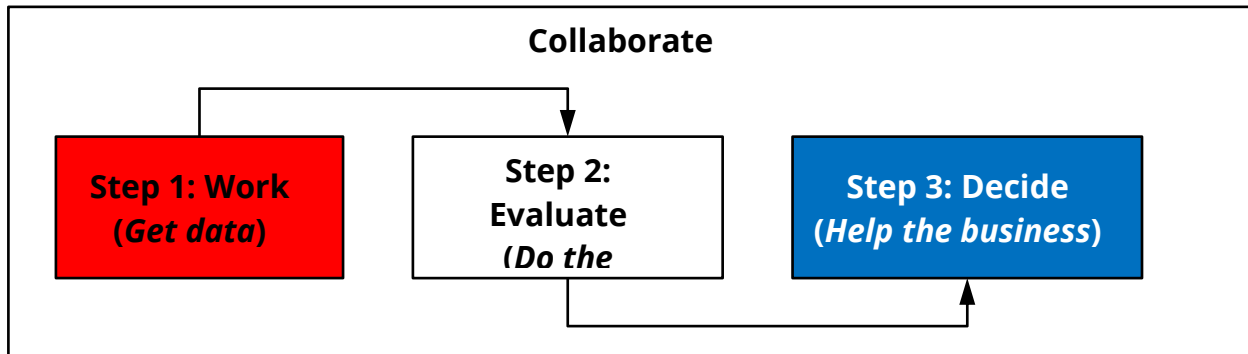


Error-proofed Design of Experiments

Course format: Instructor-led Online Training
Course duration: 25-hours, typically in five 5-hour sessions

Course overview

Error-proofed Design of Experiments is a hands-on, workflow-based course. It begins with a brief discussion of statistical & DOE principles and proceeds to a detailed discussion of a structured 3-step DOE workflow. This method was developed during a multi-year study to **optimize and error-proof the DOE process itself**.



Course attendees will learn about the six “Work” sub-steps and the six “Evaluate” sub-steps that, combined, have 15 error-proofing checkpoints to help experimenters avoid common pitfalls. At the end of Step 2, experimenters and their colleagues will have vital information needed to **make good business decisions**.

Pre-requisites

The course requires a good understanding of Minitab fundamentals including navigation, menu structure, data integrity, annotations and graphing. For those without Minitab experience, please see the (free) Pyzdek *Intro to Minitab* short course. To get the most out of the course, attendees should have their own PC, a Minitab license (Version 19 or higher), a 2-way headset and a webcam. Two monitors are highly recommended.

Designed for:

This course is designed for Engineers, Scientists, Supervisors, Managers and Technicians who need to optimize process factors (set points) to yield a wide range of desired results or to better understand what process factors have the most effect on results.

Benefits to attendees

- Use error-proofed DOE workflow to improve processes, gain new process knowledge, increase corporate profits and avoid common DOE pitfalls
- Minimize the cost of designed experiments
- Analyze DOE data and interpret results in group discussion
- Multiply the effectiveness of Lean-based process improvement
- Learn many useful statistical principles
- Improve return on statistical software investment

Course structure

Course content	% of time spent
Hands-on exercises and interpretation of results	80%
Basic statistical principles	10%
Basic DOE principles	10%

Specific topic covered

- The DOE mindset and the importance of collaboration
- *The Great Mathematical Quandary*
- SPC fundamentals
- DOE planning and economics
- Screening experiments
- Interaction (factorial) experiments
- Response surface experiments
- Common DOE myths and pitfalls

Schedule options

- Five 5-hour segments spread over 2-3 weeks is recommended
- Other scheduling based on customer need



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