1-day Failure Modes and Effects Analysis Course

Workshop Description

The use of Failure Mode and Effect Analysis (FMEA), in all its incarnations, is almost ubiquitous throughout industry, yet its deployment and application are often fraught with difficulties. What appears to be a simple tool is often used inconsistently with a corresponding high degree of frustration and lack of confidence. Part of the problem lies with the published work and the standards on this fundamentally simple tool as they demonstrate a distinct degree of inconsistency.
This FMEA Course uses a systems approach to failure to provide practicing engineers with a consistent and clear understanding of the relationships between failure modes, mechanisms, effects and causes. In practice, this systems model provides an unambiguous, repeatable and reproducible approach to FMEA whether it is Functional, Design, Use or Process.
The 1-day FMEA course has three purposes:

- To educate and train attendees in the concepts, principles and practices of Failure Modes and Effects Analysis.
- To develop attendees' skills to successfully conduct real-world FMEAs.

Wherever possible the course will apply the various forms of FMEA to real-world practice examples selected and agreed beforehand.

Course Numbers and Who Should Attend?

The 1-day FMEA course can be delivered to up to 20 participants working in small teams of 4/5.

Benefits to the Individual and Business

At the end of the workshop attendees will:

- Understand the concepts and principles of systems approach to failure and how they apply to the consistent identification of potential failure modes, effects mechanisms and causes
- Have understanding and confidence to successfully conduct FMEAs

As a consequence of the learning the business will:

- Greater in-house capability and understanding to conduct FMEAs consistently and correctly
- Less product change and greater product stability.

Learning Approach

The learning approach is based on the Kolb learning cycle with a proportion of the workshop set aside for exercises to reinforce the learning. Indeed, many of the small group exercises involve a real case study provides by the client organization to provide practical focus for the workshop and enables the delegates to practise the methodology and tools presented.

Workshop Agenda

Introduction and expectations
Risk the reason for FMEA
- Risk vs. Uncertainty
- FMEA and safety

What is FMEA
- A systems Approach to Failure
  - Failure definition
  - Function
  - Failure mode
  - Effects
  - Causes
  - Failure mechanisms

Types of FMEA
- Functional FMEA
- Design FMEA
- Process FMEA

FMEA Process and Practice– How to:
- Define analysis boundary
- Identify Functions
- Define failure modes
- Defining Effects
- Assigning Severity
- Understanding Causes, mechanisms and symptoms
- Assigning Occurrence
- Preventions and detection methods in place
- Assigning Prevention-Detection
- Understanding Risk Priority Numbers
- Identifying mitigation actions
- Evaluation of actions

Review and lessons learnt
FMEA in Practice
Summary

Course Costs

The cost of delivering the 1-day FMEA Course, excluding delivery tutor accommodation and expenses, but including all courseware is £2,000. VAT will apply at the prevailing rate.

The course can be tailored to suit individual customer's operations and include real practice examples from the attendees' workplace. The practice examples will need to be reviewed by BHW to ensure their suitability as training examples.

More Information and Contact Details

For more information about the 1-day FMEA Course or any of our other Systems Engineering courses please contact **Dr Stuart Burge** on +44 (0)7803 131614 or sburge@burgehugheswalsh.co.uk.