New Product Development Phase 2: Testing

Onsite or Virtual – 2 Days, 8 hours/Day – 3-6 Participants

Training Description:

In this 2-day training, participants will learn the critical methodologies and best practices for how to design and develop hardware products. Specifically, this training is centered on training, validation, and verification in which participants will be tasked with understanding how they would test their requirements. In addition, this training also focuses on "Design for Robustness". Participants will learn methodologies to resolve issues such as Design Failure Mode Effects Analysis (DFMEA), Fault Tree Analysis, and Root Cause Analysis. Participants will learn these topics either on site or virtually through lectures and assignments with the intent to resolve gaps in their current or future products or supplied fictional examples. Taking this course will give the employees the tools to execute on new product development like a seasoned pro! The ideal audience for this course is engineers and managers.

Training Objective:

The objective of this training is to give participants the tools to efficiently develop new hardware products. These tools will allow them to prevent problems before they arise and to attack problems quickly if they do emerge. The exercises will allow them to examine their current work and get topical advice and tips in a supportive atmosphere. Participants will also get various templates that they may use in the future.

Skill Attainment:

As a result of this training participants should be able to complete the following:

- Test Plan and other Validation and Verification documents
- Risk Mitigation documents such as DFMEA, FTA and RCA (see above)
- Methodologies for finding problems and solutions such as Pareto Analysis and Pugh Matrices

Training Agenda:

- **Testing, Validation and Verification**
    - Discuss typical test plans and methodologies
    - Review common specifications
    - Talk about how test plans are driven by the CRD and PRD
    - Learn the difference between validation and verification
    - Discuss typical procedure and report templates
    - Exercise: write a test plan for their product or a fictional product

- **Design for Robustness:**
    - How to identify weak points in a design through analysis and/or testing
    - How to mitigate risk with a Design Failure Mode Effects Analysis (DFMEA), Fault Tree Analysis (FTA) or Root Cause Analysis (RCA)

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- o Exercise: write simple DFMEA for their product or fictional product
- o Exercise: given a sample problem do RCA