**Failure Mode, Effects and Criticality Analysis (FMECA) Course Outline**

- History and Purpose of FMECA
- FMECA Process Overview
- FMECA in the Product Development Process
- System / Subsystem / Component FMECA
- Team Structure and Rules for Efficiency
- Link between FMEA and FMECA
    - Functions
    - Failure Modes
    - Causes
    - Effects
- FMECA Development Methodology
    - Step 1: Perform FMEA
        - Functions / Failure Modes / Effects of Failure / Severity
        - Severity Ranking Guidelines
        - Review Actions for High Severity
    - Step 2: Determine Severity for Effects for FMECA
    - Step 3: Assign Effects Probabilities
    - FMECA Workshop: Steps 1-3
    - Step 4: Establish Probabilities
        - Failure Mode
        - Individual Components
        - Data source for Failure Rate data (Lambda)
    - Step 5: Calculate and Plot Criticality
    - FMECA Workshop: Steps 4-5
    - Step 6: Design Feedback and Risk Mitigation
        - Mitigation actions directed at Highest Severity and Probability combinations
    - Step 7: Maintainability Analysis

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        - Reliability-based Selection of Components
            - Develop Spare Parts List
    - FMECA Workshop: Steps 6-7
- Design Review Integration of Risks
    - Test Plan Development / Design Verification Plan and Report (DVP&R)
    - Revisit Rankings After Action Completion

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