

Design Failure Modes and Effects Analysis – Design FMEA

Target Audience	Design engineering personnel with responsibility to complete Design Failure Mode and Effects Analysis (DFMEA)
Course Description	Participants will learn how to increase the value of Design FMEA. Using a cross-functional team approach, students will use the SAE/AIAG reference manuals to develop DFMEA's that identify high-risk areas and mitigate risks to minimize design errors.
Prerequisites	Students should be familiar with basic FMEA concepts as described in the AIAG or SAE J1739 Potential Failure Modes and Effects Analysis Handbook.
Course Objectives	<ul style="list-style-type: none"> • Introduction <ul style="list-style-type: none"> An overview of Design FMEA – Definition, Purpose, Outputs, Difficulties in applying DFMEA • The FMEA Form <ul style="list-style-type: none"> FMEA Header FMEA Body • Functional Block Diagrams • Items, Functions, and Performance Requirements • Understanding the relationship between Failure Modes, Effects, and Causes • Design Controls – Prevention vs Detection • The relationship between Prevention on Occurrence • Consistency in ranking Severity, Occurrence, and Detection • Assessing Risk: <ul style="list-style-type: none"> Safety and Government Regulations The RPN Assigning effective recommended actions • Logging lessons learned • Evaluation of Effectiveness • The Risk Reduction Process <ul style="list-style-type: none"> Team Membership Meeting Preparation Managing Recommended Actions Reporting on progress Showing continuous improvement – DFMEA as a Living Document
Course Length	8 Hours
Hardware/Software Needs	None
Instructional Techniques	<ul style="list-style-type: none"> <li style="width: 50%;">• Lecture <li style="width: 50%;">• Class Discussion <li style="width: 50%;">• Individual Exercises <li style="width: 50%;">• Individual Self-Tests <li style="width: 50%;">• Team Exercises
Process Evaluation	Post Testing



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