

## AS9145 with Design FMEA (DFMEA) and Process FMEA (PFMEA) for Aviation, Space and Defense Organizations



Course Duration: 5 Days - 8 Hours/day

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## Seminar Content

This five-day seminar is designed to provide participants with an understanding of how the risk management elements of Aerospace Advanced Product Quality Planning (APQP) help ensure successful launches based on robust New Product Development processes through the use of Design and Process FMEAs, as well as how to employ the same tools to manage continual improvement in products and processes. The multidisciplinary approach to APQP knowledge management is stressed as essential to shortening development cycle times and reducing launch risk in new product introduction.

This seminar also provides guidance on the Aerospace PPAP. It shows where and when to incorporate prevention tools such as DFMEA, DFM/DFA, Process Flow, PFMEA, Control Plans, MSA, and SPC. This class provides a comprehensive overview of the overall APQP and Core Tools suite.

APQP and PPAP with the associated tools needs to be integrated with AS9100D clause 8.0 Operation.

## Learning Objectives

- ❖ Describe the Aerospace APQP and PPAP requirements
- ❖ Assist an organization in implementing these requirements
- ❖ Provide a hands-on approach to FMEAs and their relationship to program deliverables and status reporting
- ❖ Provide the competencies needed to introducing new products and processes smoothly
- ❖ Gain knowledge and understanding in the creation and use of Design FMEAs:
  - ❖ Block Diagrams and Interface Matrix
  - ❖ Linkages between Block Diagrams, SFMEAs, DFMEAs, DVP and other design tools
  - ❖ Linkages between PFMEAs and S/DFMEAs
  - ❖ Using FMEA as an analytical process
  - ❖ S/DFMEAs and DVPs
- ❖ Gain knowledge and understanding in the creation and use of Process FMEAs:
  - ❖ Process Flows
  - ❖ Linkages between Process Flows, PFMEAs, Control Plans and Work Instructions
  - ❖ Linkages between PFMEAs and S/DFMEAs
  - ❖ Using FMEA as an analytical process
  - ❖ Characteristics Matrix
  - ❖ Process FMEAs and Control Plans

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## Seminar Outline

- ❖ Introduction to AS9145
- ❖ General APQP and Phase 1 Requirements
- ❖ APQP Phase 2 Requirements
- ❖ APQP Phase 3 Requirements
- ❖ APQP Phase 4 Requirements
- ❖ APQP Phase 5 Requirements
- ❖ Production Part Approval Process
- ❖ FMEA Introduction
- ❖ Putting an FMEA Together
- ❖ DFMEA Prerequisites
- ❖ Developing the DFMEA
- ❖ DFMEA – Component Level
- ❖ Test Planning and Reporting
- ❖ PFMEA Prerequisites
- ❖ Developing the PFMEA
- ❖ Using PFMEA to Improve the Process
- ❖ FMEA and the Product Realization Process
- ❖ Control Plans
- ❖ Work Instructions

## Who Should Attend

- ❖ Program Managers
- ❖ Project Managers
- ❖ Quality Managers
- ❖ Process Engineers
- ❖ PPAP Coordinators
- ❖ APQP Team Members
- ❖ All other Risk Management personnel

## Seminar Materials

Each participant will receive a seminar manual and a workbook including all team breakout exercises with a running case study on creating Design and Process FMEAs.

## Pre-Requisite

- ❖ Basic understanding of management systems
- ❖ Some exposure to the New Product Development (NPD) process

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