



# Quality-One International

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## Quality Core Tools Course Outline

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- 1. Advanced Product Quality Planning (APQP)**
  - Five APQP Phases for quality planning and the tools associated with each phase
  - Implementation and scaling of APQP
  - Use of APQP activity checklists
  - APQP Deliverables with emphasis on PPAP elements
  - Control plan Development
  - Team feasibility commitment
- 2. Failure Mode and Effect Analysis (FMEA)**
  - Where FMEA fits in APQP
  - Design FMEA Overview
  - Design FMEA Outputs
  - Relationship between Design FMEA and Process FMEA
  - Special Characteristics Development and Management
  - Process Flow Chart
  - Process FMEA (PFMEA) Overview
  - Process FMEA Outputs
  - Relationship of Process FMEA to Control Plans
- 3. Production Part Approval Process (PPAP)**
  - When submission is required
  - Requirements for part approval
  - Submission levels
  - Process requirements and items
  - Record and sample retention
  - Part submission status
- 4. Basic Statistical Process Control (SPC)**
  - Introduction to SPC
  - Sampling and data collection
  - Variable and Attribute Data
  - Central Tendency, Range and Standard Deviation
  - Variable and Attribute Control Charts
- 5. Measurement System Analysis (MSA)**
  - General measurement systems guidelines
  - Methods for assessing measurement systems effectiveness
  - Calibration requirements including traceability
  - Analysis of a measurement system Gage Repeatability & Reproducibility (GR&R)
  - Measurement of gage performance
- 6. Special Characteristics**
  - Selection of characteristics that are special using DFMEA
  - Characteristics Matrix
  - Process FMEA requirements for Special Characteristics
  - Requirements for Special Characteristics in PPAP
  - Gage R&R and SPC on Special Characteristics