



Course Title: Accelerated Test Methods for Ground and Aerospace Vehicle Development

Course Length: 2 days

Time Online: N/A

Time in Class: 16 hours

Time in Lab: N/A

Class Size: Minimum 5 / Maximum 24

Price Per Student: \$2,025.00*

Location: Company Site

Course Description:

Engineers and managers involved with product development are constantly challenged to reduce time to market, minimize warranty costs, and increase product quality. With less and less time for testing, the need for effective accelerated test procedures has never been greater. This course covers the benefits, limitations, processes, and applications of several proven accelerated test methods including accelerated reliability, step stress, FSLT (Full System Life Test), FMVT® (Failure Mode Verification Testing), HALT (Highly Accelerated Life Testing), and HASS (Highly Accelerated Stress Screening). A combination of hands-on exercises, team activities, discussion, and lecture are used throughout the course.

Participants will also receive a copy of the instructor's eBook, Accelerated Testing and Validation Management. Attendees are requested to bring a calculator to the seminar.

Course Learning Objectives

By attending this course, participants will be able to:

- Choose the accelerated test method for a given application
- Analyze accelerated testing results
- Explain how to accelerate one's current test methods
- Explain how to accelerate one's validation program
- Adjust accelerated test programs for business situations
- Describe how product development cycles can be reduced from 18 to 6 months

Course Syllabus

- Statistical model for reliability testing
 - Fundamentals of a statistical reliability test
 - Effects of automotive supply chain on sample size and duration
 - Common pitfalls
 - Examine and solve two or three real life statistical data set problems
- Key Accelerated Tests, Terms, and Methods

* Price based on minimum enrollment, subject to change

- Definitions: Information Goal, Basic Method, Limitations
- Full System Life Test (FSLT)
- Step Stress
- Accelerated Reliability Highly Accelerated Life Test (HALT)
- Failure Mode Verification Test (FMVT) -- Development; Warranty; Life Prediction
- Test Acceleration vs. Program Acceleration
 - Advantages of accelerating a full validation program compared to an individual test
 - Examples of time/cost saved on individual test acceleration
 - Examples of time/cost saved on program acceleration
- Hybrid Acceleration Methods
 - Using information goals of individual test methods to combine and leverage tests
 - Hands-on team exercise: combine test methods to solve a particular information need
- Decision and selection process
 - How to choose which method
 - Considering position in supply chain
 - Considering business model and product type
 - Considering development phase
 - Considering component, subsystem, and system level testing
 - Hands on team exercise: selecting optimal testing solution for several scenarios