RPC® Pro Fatigue Tools (Advanced)

1 day course

COURSE OUTLINE

I. Data Classification
   - A. Algorithms & Comparisons
   - B. Project Level Defaults
   - C. Level-Crossing
   - D. Rainflow <> Range Pair
   - E. Probability Density
   - F. Histogram Textual Output
   - G. Histogram Plotter (advanced)
   - H. Histogram Accumulation

II. Damage Calculation
   - A. Stress Life & Strain Life Models
   - B. Mean Stress Correction
   - C. Material Editor
   - D. Project Options

III. Time History Based Damage
   - A. Project Level Defaults
   - B. Tool Report Options
   - C. Damage Cycle / Damage Time History
   - D. Time History Plotter / Editor *(advanced features)*

IV. Damage Based Editing
   - A. Window Size & Tapering Options
   - B. Auto Damage Editor
   - C. Damage Assessment *(road, edited & simulated)*

V. Damage from Histograms
   - A. Damage Histogram
   - B. Back Calculation

VI. Signal Regeneration from Histograms
   - A. Rainflow Regeneration
   - B. Block Cycle Generator

VII. Fatigue in Applications
   - A. RPC Simulate Pro
     - a. Per-Iteration Damage
     - b. Damage incurred during Iterations
     - c. Project Options
   - B. RPC Test Pro
     - a. Initial damage
     - b. Per-Pass & Cumulative Damage
     - c. Damage Limits

VIII. Fatigue in Reports
   - A. Sequence Report
   - B. Time History Report
     - a. Custom Templates

This course builds on the concepts presented in the "RPC Pro Fatigue Tools (Basic)" course. The basic course focuses on familiarizing the beginning user with the operation of the cycle counting and fatigue damage calculation capabilities of RPC Pro. The advanced course provides additional depth on algorithms, advanced features and more complex analysis methods.

Who should attend

Test operators, technicians, or engineers who have familiarity with RPC Pro, including basic use of its fatigue tools, and who wish to understand more fully the application's fatigue analysis capabilities. Typically offered as an add-on to the RPC Pro Advanced Software Operation course.

Prerequisites

- Basic understanding of fatigue concepts.
- Proficiency in operating RPC Pro software (as acquired by attending the "RPC Pro Software Operation" course, or equivalent experience).
- Basic familiarity with RPC Pro fatigue tools and features – as acquired by attending course "RPC Pro Fatigue Tools" course, or equivalent experience)