

## About the Course

This course is designed to teach reliability engineering skills as they apply to improving process system reliability and developing maintenance strategies. You will use modern software and analysis methods to perform statistical analysis of failures and model system performance, plus develop maintenance and reengineering strategies to improve overall performance.

"This was a great course." - Facilities Engineer, United States

## Target Audience

Maintenance, engineering, and operations personnel involved in improving reliability, availability, condition monitoring, and maintainability of process equipment and systems. Participants should have foundation skills in statistical analysis and reliability techniques for equipment.

## You Will Learn

- Improving reliability in new facilities/systems
- Reliability design for maintainability
- Developing initial maintenance strategies
- Virtual equipment walk-down; criticality using simulation and modeling; developing baseline condition monitoring programs; developing lubrication programs; and developing process-specific maintenance strategies with reliability-centered maintenance (RCM)
- Improving reliability in existing facilities/systems
- Analyzing process reliability plots to determine the amount of opportunity
- Continuous improvement through failure reporting, analysis, and corrective action systems (FRACAS)
- Developing policies and procedures; developing failure reporting codes; statistical analysis of failures using Weibull; and developing root cause analysis (RCA) programs (triggers for RCA and analyzing recommendations)
- Developing maintenance strategies with condition monitoring
- Identifying applicable condition monitoring methods; using criticality to determine level of condition monitoring application; and reporting asset health
- Developing maintenance strategies with RCM

- Developing policies and procedures; identifying systems for analysis; analyzing recommendations with simulation and modeling; and implementing recommendations
- Monitoring results
- Understanding the true purpose of key performance indicators (KPIs)
- Developing appropriate reliability and maintainability KPIs

## Course Content

- Criticality analysis
- Availability simulation and modeling
- Statistical analysis of failures using Weibull
- Maintenance strategy development; condition monitoring; reliability-centered maintenance; and essential care
- Process reliability analysis
- Root cause analysis
- Failure reporting, analysis, and corrective action systems
- Key performance indicators
- Reliability definitions