INTRODUCTION TO RELIABILITY ANALYTICS,

DESCRIPTION

Using maintenance and reliability data is vital for organizations to systemically reduce unplanned downtime. However, many organizations do not utilize the already available data in their CMMS. The data is not used as it is not "clean," or the statistical technique required to use the data is not known. This leads to continued losses and a reduction in capacity.

The Introduction to Reliability Analytics workshop is designed for staff who already have a reliability program in place, and want to accelerate their improvements, based on data.   This workshop will cover a variety of topics such as Data Preparation, Statistics for Reliability Engineers, Weibull Analysis, Reliability Growth Analysis, Reliability Block Diagrams, Life Cycle Costing, and the role of Industrial Internet of Things. The overall objective of this workshop is to build a level of comfort and competency with reliability statistics to evaluate capacity losses and decide on the appropriate solutions. During this workshop, the participants will participate in many different hands-on activities to not only reinforce the concepts but to also provide a safe environment to practice the new techniques. Students will use case studies, activities, augmented reality, and discussions to ensure comprehension of the topics.

RECOMMENDED AUDIENCE

This course is recommended for Reliability Analysts, Maintenance and Reliability Engineers, Reliability and Maintenance Engineering iBL graduates, Maintenance and Engineering Managers.

PREREQUISITES

As this course will dive into the more advanced functions of Reliability & Maintenance Engineering, it is recommended that the students have an understanding of reliability fundamentals such as FMEAs, RCM, the P-F Curve, and the 6 Failure Patterns.

YOU WILL LEARN:

- Describe how Reliability & Maintainability align with strategic business objectives
- Understand how the reliability fundamentals support reliability analytics
- Understand the difference between mean, median, and mode, and the role of probability
- Prepare and clean maintenance and failure data for analysis
- Understand the different type of distributions available to analyze failure data
- Understand the role of "Mean" metrics such as MTBF and MTTR.
- Utilize Mean Cumulative Plots to understand failure rates
- Describe how failure data can be used on repairable systems with analysis such as Reliability Growth Analysis
- Describe how failure data can be used on a non-repairable system with analysis such as Weibull Analysis
- Build Reliability Block Diagrams to simulate repairable and non-repairable assets and systems.
- Complete a spare parts analysis to optimize spare parts holdings
- Understand and calculate Life Cycle Cost (PI, NPV, etc.)
- Describe the role of simulations to analyze reliability, maintainability, and availability.
- Understand the role of the Industrial Internet of Things in Reliability Analytics

Upcoming Dates

March 31-April 2, 2020, November 10-12, 2020