Making Oil Analysis Work For You

Module 1: The Fundamentals of Lubrication and Wear

1) Component Failure
   What makes components fail.
2) Lubricant Functions
   The role lubricants play.
3) Lubricant Types
   T*he common types of lubricants we use.*
4) Modes of Lubrication
   How lubricants reduce friction in different situations.
5) Lubricating Systems
   How lubricants get to the friction point.
6) Wear Mechanisms
   How wear and material loss occurs in a machine.
7) Particle Generation and Loss
   How particles enter and leave a machine.

Module 2: Oil Analysis Basics

1) The Purpose behind Performing Oil Analysis
   An overview of the parameters of lubrication and wear that oil analysis can effectively monitor.
2) Oil Analysis Tests
   How each of these tests are performed, and what they mean.
   a. *Viscosity testing*
   b. *ICP Spectroscopy*
   c. *Testing for Water*
   d. *Demulsibility*
   e. *FT-IR*
   f. *Acid Number / Base Number*
   g. *Particle Counting*
   h. *Wear Particle Concentration*

Module 3: Wear Particle Analysis

1) Principle
   What Wear Particle Analysis (WPA) is and how it is useful.
2) Methodology
   How WPA is performed.
3) Analytical Ferrography
   An in depth look at analyzing a ferrogram.
4) Example Analysis
   Putting it all together in an example.

Module 4: Starting, Managing, and Administering an Oil Analysis Program

1) Setting Goals
   As with any program, it is important to set goals for oil analysis.
2) Selecting Equipment
   How to decide which equipment should be included in a program.
3) Sample Frequency
   How often to sample.
4) Sampling Techniques
   How best to obtain a sample for analysis.
5) Test Packages
   Selecting tests to be performed on your samples.
6) The Oil Analysis Process
   How it all happens, from ordering supplies to reading a report.
7) Report Interpretation
   What to make of the numbers on the report.