

The Lubrication Reliability Source™



LUBRICATION ENGINEERS,® Inc.

MLT I Training & Certification Course

Who should attend?

- Equipment operators
- Lubrication technicians & engineers
- Machine reliability technicians
- Maintenance managers & supervisors
- Reliability engineers
- Operations managers

LE's training facility features stadium seating, retractable video screens, Wi-Fi capability, and other amenities. Real-world demos take place right next door in LE's state-of-the-art, ISO 9001 certified manufacturing plant.

800-537-7683

MLT I Training & Certification Course

LE Brings Together Expert Instructor, New Facility & Hands-On Training To Help You Build a Foundation of Knowledge at Your Plant

Benefits

- Advance the lubrication knowledge and expertise of your reliability team
- Gain control over the lubrication process and over your daily equipment reliability routine
- Increase profits by increasing efficiency and reducing labor and downtime, all while protecting machinery

In this course, managers, engineers and technicians alike will learn the impact that best-in-class lubrication practices can have on machine health and reliability. They will see why machine lubrication activities should be moved from modest and reactive to thorough, accurate and proactive. If your facility has any of the following equipment, you will benefit from this course: blowers/fans, compressors, gas turbines, gearboxes, hydraulic systems, motor bearings, paper machines, process pumps, rolling mills and steam turbines.

This class is for anyone who is concerned about improving lubrication practices at their facility.

In a competitive manufacturing environment, even highly efficient organizations must figure out how to do more work in less time. With labor shortages, the struggle will intensify. One option is to limit the size and scope of machine care, but accomplishing this without sacrificing reliability requires both **advanced knowledge** and **practical expertise**. By advancing the lubrication

reliability knowledge and expertise of your team, you can reap the labor savings and other hidden profits that are directly related to an improved reliability program.

Expert Instructor



LE has partnered with Michael Johnson of Advanced Machine Reliability Resources to conduct the training. Michael is MLT II and MLA III certified, and is an SMRP Certified Maintenance and Reliability Professional and STLE Certified Lubrication Specialist. He also played a pivotal role as a contributing editor for ICML's MLT I and MLT II test development.

Michael has spent 22 years focusing on reliability-centered lubrication practices and program development. He is the author of 65 technical and industry articles published by *TAPPI*, *ILMA*, *STLE*, *Reliable Plant*, *Practicing Oil Analysis*, *Machinery Lubrication and Uptime*.



Location Lubrication Engineers Training Facility
1919 E. Tulsa
Wichita, KS 67216

2011 Dates June 7-9, test on June 10 & Oct. 18-20, test on Oct. 21

Schedule 8 a.m. to 5 p.m. each day, with optional ICML test from 8 a.m. – noon on fourth day

Cost \$999 for 3-day seminar in Wichita (includes continental breakfast, beverage & lunch)

Optional ICML test on morning after class is not included in this class fee.

Private groups can be scheduled in Wichita or at your facility upon request; contact us for a quote.





Registration Form

4 Ways To Register

- Online www.le-inc.com/training.jsp
- Fax 800-228-1142
- Mail Lubrication Engineers, Inc.
300 Bailey Avenue
Fort Worth, TX 76107
- Call 800-537-7683

ICML MLT I Certification

ICML requires a minimum of two years post secondary education or on-the-job training, plus at least 16 hours of formal training in machinery lubrication in order to test for MLT I. Qualified candidates should contact ICML in advance at 918-259-2950 or go to www.lubecouncil.org to register for testing. The \$200 fee is not included in the course fee and should be paid directly to ICML.

Test Preparation

This course provides pre- and post-class comprehensive preparation exams that are similar in length and structure to ICML's examination. Quizzes will be distributed after each section to help attendees verify and improve material comprehension.

Please Print

Name _____		Title _____	Company _____	
Address _____		City _____	State _____	Zip _____
Telephone _____	Ext. _____	Fax _____	E-mail _____	

Payment Information (check one)

Check enclosed: Payable to **Lubrication Engineers, Inc.**

Invoice my company – Attn: _____

(Payment must be received prior to start of class)

Name _____		Company _____		
Email _____		Web Address _____		
Phone _____	Ext. _____	Fax _____		

Credit card (must be sent via mail, fax or secure e-mail account)

Check one: Mastercard Visa Discover American Express
 Card # _____ Expiration date ____/____ Security code _____
 Billing address (if different from above)

Name as it appears on card _____	Address _____	City _____	State _____	Zip _____
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Hotel Accommodations

Accommodations are not included in the course fee. Visit www.gowichita.com/visitors/where-to-stay for a list of hotels in the Wichita area, and then please make reservations directly with the hotel of your choice.

3-Day Course Outline

Precision Lubrication & Machine Management Strategies

- Traditional Equipment Maintenance Strategies
- Modern and Future Maintenance Strategies
- Machine Lubrication Practices for each Strategy
- The Concept of Precision Lubrication
- The Role of Lubrication in Machine Reliability

Applied Tribology: The Science of Precision Lubrication

- Friction, Motion, Lubrication, and Wear
- Surface Interaction Modes – Sliding and Rolling
- Surface Damage: Abrasive, Adhesive, Cavitation, Corrosion
- Lubricants, Lubricant Films and Surface Protection
- Stribeck Curve – Phase Changes

Lubricant Construction

- Lubricant Categories
- Base Oils
- Additives
- Thickeners

Performance Properties

- Oil Performance Criteria
- Grease Performance Criteria
- Loss of Additive Performance

Lubricant Selection Practices

- Bearings
- Gearing and Couplings
- Hydraulics
- Compressors
- Turbines
- Wire Rope, Chain and Miscellaneous
- Combustion Motors

Lubricant Application – Grease

- Dispensing Tools
- Dispensing Metrics – Frequency and Volume
- Automation
- Practice for Maintaining Automatic Systems

Lubrication Application – Oil

- Dispensing Tools

Lubricant Condition & Contamination Control

- Sump Management: The Heart of Precision Lubrication
- Types of Contaminants
- Contaminant Exclusion
- Contaminant Removal

Lubricant Storage & Handling

- Lubricant Consolidation
- Bulk and Packaged Product Receipt and Storage
- In Plant Handling Management
- Lubricant Handling Tools

Introduction to Oil Analysis

- Lubricant Sampling Tools and Methods
- Properties Analysis
- Solid Contaminant Analysis
- Wear Debris Analysis
- Test Slate, Alarms and Limits Development



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