ASSET PERFORMANCE MANAGEMENT

MLE MACHINERY LUBRICATION ENGINEER

This course builds a strong foundation in asset management, reliability, and lubrication aligned with ISO 55000 and ICML 55. It covers lifecycle management, maintenance strategies, and condition-based monitoring technologies. Participants learn tribology, lubricant selection, contamination control, and oil analysis practices. The course also addresses risk, RCM, troubleshooting, and continuous improvement to enhance reliability and efficiency.

Format

Duration: 35 hours **Schedule:** 5 Day(s) **Delivery:** Classroom

Who should attend

- Maintenance engineers and managers
- Lubricant engineers
- Reliability engineers
- Condition monitoring engineers

Objectives

- Understand asset management fundamentals and ISO 55000 / ICML 55 requirements.
- Apply reliability principles to reduce lubrication failures and manage risk.
- Use lubrication and tribology basics to improve machine life and efficiency.
- Implement condition-based maintenance and lubrication best practices.
- Develop skills, metrics, and continuous improvement for sustainable reliability.
- The exam and the associated certification is provided by ICML. Baker Hughes can provide an proctored environment for the paper or online exam.

*ICML Partner

Duration: 5 days ILT, (35 hours) +1 day for the ICML exam

Required Prerequisites

Candidates must have at least 5 years' education (post-secondary) or on-the-job training in one or more of the following fields: engineering, mechanical maintenance, maintenance trades, lubrication, oil analysis and/or condition monitoring (mechanical machinery).

Program Outline

Day 1:

- Asset Management, ISO 55000, ICML 55
- Asset hierarchy & lifecycle management
- Reliability philosophies, culture, KPIs, OEE, risk & criticality
- Introduction to FMEA, RCA, FRACAS

Day 2:

- Maintenance management, PM optimization, EAM/ CMMS
- Planning, scheduling, shutdowns, TPM
- Condition‐Based Maintenance (CBM) concepts
- CBM technologies & applications (vibration, oil analysis, thermography)

Day 3:

- Friction, wear mechanisms & lubrication regimes
- Lubricant chemistry, base oils, additives, greases
- Lubricant properties, testing methods
- Lubricant selection by machine type

Day 4:

- Lubrication tasks, inspection & safety
- Lubrication support facilities & contamination control
- Oil analysis programs & condition monitoring
- Machine modifications for reliability

Day 5:

- Risk management, RCM, Weibull, HACCP
- Troubleshooting, RCA & failure remediation
- Supplier compliance, waste & environmental management
- Metrics, energy efficiency & continuous improvement

Day 6: Exam

ICML Exam: The certification exam consists of 150 multiple‐choice questions administered over four hours. A score of 70% is required to pass.

CERTIFICATION

ICML

Global Partner: International Council for Machinery Lubrication (ICML)