

Three ways to register:

By **mail or fax**. See page 75 for course registration form.

Online at www.stle.org.

Call STLE at 847-825-5536.

AM 2009 Education Program Synopsis

The 2009 STLE Annual Meeting & Exhibition features 10 course days of education with two entirely new courses and four significantly revised courses. For those interested in metalworking, STLE offers two introductory-level, one-day courses: MWF105-Metal Forming Basics and MW 125-Basic Health & Safety Course.

STLE's Condition Monitoring Technical Committee assembled a task team that created two new courses at the basic and intermediate levels. The first, CM 101, covers the Basics of Maintenance Strategies and Lubricants. The second, CM 201, covers the Basics of Failure Modes and Detection Methods.

Finally, in conjunction with NLGI, STLE is co-hosting a Basic Applications Grease Course. This course, like STLE's previous collaboration with ABMA last year, has a separate, independent tuition. Advanced Lubrication 301 also has been updated.

Following is an overview of the courses offered in 2009.

Please check the Program Guide distributed on site in Lake Buena Vista to verify course times. Some times might change slightly.

10 World-class Education Courses

ADVANCED LUBRICATION 301: ADVANCED LUBRICATION AND THEORY

Wednesday, May 20: 8 am – 5 pm

This is a focused, higher-level course on tribology, lubricants and lubricant formulation. Experienced professionals, including those who have completed STLE's Basic Lubrication course, will benefit from this more focused and advanced session on lubricant technology. This course assumes fundamental knowledge of lubricants and lubrication principles or completion of Basic Lubrication 101-102. Advanced Lubrication 301 targets individuals employed by oil and additive companies, experienced lubricant end-users and other technical professionals interested in expanding their basic lubrication knowledge. Key concepts taught in this course include:

- Wear
- Wear mechanisms
- How to diagnose wear problems from equipment failure
- Types of additives used in lubricants, the mechanism of how they work and how they are formulated into additive packages
- Oil rheology and lubricant viscosity theory
- Low-temperature properties of lubricants
- Viscosity Index Improvers
- Low- and high-shear rate properties of lubricants and how these properties are measured.

BASIC LUBRICATION 101: FUNDAMENTALS OF LUBRICATION

Sunday, May 17: 8 am – 5:45 pm

Basic Lubrication 101 is an introduction to lubricants, lubrication principles, base oils, additives and compounded fluids. This course does not require the student to have a formal scientific degree or background, although many technical terms and concepts related to lubricants and their composition are covered. Basic Lubrication 101 is intended for a diverse group, including people involved in technical service, sales, marketing, manufacturing, maintenance and management who want to know more about lubricant products and how they work. The course is designed specifically for those new to the lubrication industry.

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BASIC LUBRICATION 102: FUNDAMENTALS OF EQUIPMENT LUBRICATION

Monday, May 18: 7:30 am – 5:45 pm

Basic Lubrication 102 is an overview of equipment systems (gears, bearings, pumps, compressors, etc.) and their lubrication requirements. This course, like Basic Lubrication 101, does not require the student to have a formal scientific degree or background, although many technical terms and concepts related to the use of lubricants in various mechanical devices are covered. Basic Lubrication 102 is intended for a diverse group, including people involved in technical service, sales, marketing, manufacturing, maintenance and management who want to know more about how lubricants work in service. This course assumes fundamental knowledge of lubricants and lubrication principles, as presented in Basic Lubrication 101.

CONDITION MONITORING 101: MAINTENANCE STRATEGIES AND LUBRICANTS

Sunday, May 17: 8 am-5 pm

This new course helps prepare participants to implement, execute, evaluate and improve condition-monitoring programs for oil-wetted components. CM 101 begins with justification for condition-based monitoring, followed by an introduction to historically established maintenance strategies, providing understanding of the differences and benefits of each. We continue with an overview of the steps to implement and execute a program and conclude with information on lubricant functions and properties in the context of Condition Monitoring. Sampling procedures and testing instrumentation also are discussed.

CONDITION MONITORING 201: FAILURE MODES AND DETECTION METHODS

Monday, May 18: 8 am – 5 pm

Condition Monitoring 201, an Intermediate course, begins with an introduction to machinery failure and causal analysis. A discussion on lubricant and machinery failure modes and condition indicators follows. Then various testing methods and techniques for identifying and quantifying such conditions, including potential or impending failures, are presented. CM 201 also provides insight into the pros and cons of on-line, on-site and laboratory analysis for different applications. A discussion on data interpretation, including concepts and case studies, then transitions to data management and integration close the course.

NLGI BASIC GREASE

Wednesday, May 21: 8 am – 5 pm

This course is a comprehensive overview of all aspects of lubricating grease. Grease formulation components are thoroughly covered, including base oils, the many different thickener types and grease performance additives. Manufacturing technologies are reviewed, as well as grease testing significance and methods. We'll discuss how to select the proper grease for an application and provide examples of both industrial and automotive applications.

METALWORKING FLUIDS 105: BASICS OF METAL FORMING

Sunday, May 18: 8 am – 5 pm

Metalworking Fluids 105 is an updated version of the metal-forming course that we presented two years ago. This course is designed for those involved in developing, working with and using metal-forming fluids in the manufacturing environment. This course is very useful for formulators, technical service representatives, shop floor people and coolant system managers who all need to know more about the fundamental concepts of metal-forming fluids. MWF 105 covers the theory of metal forming, applications and the types and functions of metal-forming fluids and the general chemistries involved. Much of the course focuses on evaluating the failure mechanisms of metal-forming fluids and measures to overcome them. Topics include lubrication, rancidity/microbiology, foam, water quality, corrosion, contamination and filtration.

Among the key concepts:

- Theory of metal forming and applications
- Types and functions of metal-forming lubricants/fluids
- Failure mechanisms for metal-forming lubricants/fluids

Students completing this course will gain information that can help them prepare for the Certified Metalworking Fluid Specialist™ exam.

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METALWORKING FLUIDS 125: BASIC MWF HEALTH & SAFETY

Monday, May 18: 8 am – 4:30 pm

Metalworking Fluids 125 is a one-day introductory course that discusses health & safety issues involved in the use of metalworking fluids. This course is designed for those new to the metalworking fluid industry from the perspectives of a chemical supplier, formulator, fluid maintenance and end-user. Students will be informed about the reasons metalworking fluids can cause health & safety problems and ways to minimize them. Topics covering microbial contamination issues, metalworking fluid and additive toxicology, industrial hygiene and mist effects give students a good feel for the challenges facing metalworking fluid suppliers and end-users. The course is capped by student participation in a metalworking fluid mist case study. Students will be given an opportunity to solve an actual real-world problem.

Among the key concepts:

- Metalworking fluid microbiology
- Controlling microbial contamination
- Toxicology of metalworking fluids and additives
- Industrial hygiene
- Factors affecting the generation of metalworking fluid mist
- The health effects of metalworking fluid microbes.

This is a brief review course for those preparing for the Certified Metalworking Fluids Specialist™ examination.

SYNTHETICS FLUIDS 203: NON-PETROLUUM FLUIDS AND THEIR USES

Sunday, May 17: 8 am – 5:45 pm

Synthetic Fluids 203 provides an understanding of the synthetic materials used as base-oils and additives in compounded lubricants and their uses. There are a myriad new synthetic fluids available to the formulator or end-user, making this a more advanced-level course. This course is designed primarily for formulators and users of lubricating materials. You will learn about nonpetroleum-based lubricants, covering their chemistry as well as properties and general method of manufacture. SF 203 characterizes the various strengths and weaknesses of these fluids, providing insight into the proper cost-effective use of these specialty lubricants. This course assumes fundamental knowledge of lubricants and lubrication principles or completion of Basic Lubrication 101 & 102.

SYNTHETICS FLUIDS 204: SYNTHETIC FLUID FORMULATIONS AND APPLICATIONS

Monday, May 18: 8:45 am – 4:45 pm

Synthetic Fluids 204 covers the use of synthetic-based lubricants in general as well as their specialized applications. Often synthetic lubricants are over-engineered for the application. This material will clarify the applications where use of synthetics justifies their price in meeting the requirements of often very difficult lubrication challenges. The objective of this course is to give participants a working knowledge of the preferred synthetic lubricants for use in real-world applications. After taking this course, the student should be able to, with confidence, use and/or specify each material in a wide variety of applications. This course assumes fundamental knowledge of lubricants and lubrication principles or completion of Basic Lubrication 101 & 102.