

# LUBRICATION ENGINEERING ADVANCED LE-A 144

## DO YOU:

- know what proportion of your costs are used to overcome friction and wear?
- have a procurement policy for tribological materials and components?
- have a policy on component failures?
- have maintenance and lubrication strategies for plant and products?
- monitor the types and consumption of lubricants in your plant?

## Johannesburg

### COURSE OBJECTIVES:

The course is designed to transfer a thorough understanding of tribology from a lubrication engineering perspective. Some twenty topics take participants through from basic chemistry, the theory of rubbing contact and friction in industrial applications, to the application of management principles, safety, and the environment.

### WHO SHOULD ATTEND?

The course is aimed at maintenance personnel but will be of benefit to anyone, including engineers, concerned with the operation, maintenance, condition monitoring or management of industrial plant, machinery, transport, and other lubricant related disciplines. Marketing personnel can also gain valuable knowledge from the course.

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*"Promoting knowledge and skills transfer in friction and wear to achieve a lower Total Cost of Ownership (TCO)."*

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### REQUIRED EXPERIENCE:

Delegates should have a good understanding of lubricants and their application. Delegates must have at least twelve months experience in the lubricant and maintenance professions.

**DATE:** 20 – 24 May 2024.

**LOCATION:** Cedar Woods of Sandton Conference Centre, 120 Western Service Road, Woodmead, Sandton, Johannesburg  
What3word <https://w3w.co/plotted.vocally.imparts>



**Contact Us:**

Jo-anne or Berice by telephone or e-mail below for more information: SAIT, POSTNET Suite 598 Private Bag X10030 Randburg 2125

South Africa Tel: +27 11 804-3710.

**Email:**

training@sait.org.za or admin@sait.org.za

**Website:**

<http://www.sait.org.za>

**ADMIN:**

For the purposes of travel, please note that the course ends at 14:00 on the final day, Friday.

Please note that group photographs are taken and published.

The SAIT reserves the right to cancel or postpone the course if undersubscribed, or for any other reason, or to change the venue, and is not liable for any costs incurred by delegates or their sponsoring companies.



**Course Content:** Lubrication Terminology, Production of Lubricant Base Fluids, Basics of Lubrication, Properties of Oil, Additives, Specifications, Greases, Synthetic Lubricants, Internal Combustion Engine Lubrication, Auto Drive Line Lubricants, Plain Bearings, Rolling Bearings, Gears & Gear Oils, Hydraulic Oils, Compressor Oils, Transformer Oils, Cutting Oils, Engine Coolants, Seals, Filtration, Condition Assessment & Failures, Used Oil Analysis, Lubrication Surveys, Lubrication devices, Storage and Handling of Lubricants and Environment.

**Case Studies:** Delegates are invited to bring their case studies, their problems, and their questions to the course for discussion.

**Homework:** Homework is required to be completed every evening; this ensures that the vast knowledge is transferred successfully. Please ensure that you plan and set aside sufficient time for self-study and homework.

**Examination:** An examination will complete the course, with a certificate for successful candidates.

**Knowledge transfer:** The lecturers of the course have a combined knowledge of over 170 years, to impart their learnt knowledge and experience in the tribology field to eager minds in a short space of time.



*Be prepared for a lot of information and a fast passed course that will give you the knowledge to ask the correct questions and information to advance tribology.*

**Costs:**

- SAIT Members: R20 672.40
  - Non-Members: R23 473.80
  - Full-Time Students: R6 351.45
- NB:** please attach proof of full-time registration:

**Payment to the SAIT is due on receipt of invoice.**

The fee includes course notes, lunch, and teas, but not accommodation. A list of the closest hotels is available on request.

Registration closes 3 weeks before the starting date of each course; please book early to ensure your position. Payment to the SAIT is due on receipt of invoice; registration will be confirmed when Proof of Payment or a Purchase Order Number is received.

The Course manual is available before the course to fully paid-up delegates.



PLEASE PRINT CLEARLY AND COMPLETE ALL FIELDS.

Surname:			
Title (Dr/Mr/Mrs/Ms etc) & First Name:			
Name, for the certificate:			
Position:			
Company:			
Tel:		Cell:	
E-mail of Course Delegate:			
Name, phone number and email of person responsible for payment of this account:			
Your purchase order number:			
Your company VAT number:			
Correct delivery address for manuals and certificate:			
SAIT Member		Non member	
*Students – please attach proof of full-time registration:		<input type="checkbox"/> Yes <input type="checkbox"/> No	
1. Do you require CPD points for this course?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
2. With which governing body?			
3. What is your registration number with that body?			
Standard or Vegetarian Meals are available:		<input type="checkbox"/> Standard <input type="checkbox"/> Vegetarian	
Would you like to receive communication from the SAIT regarding upcoming events and our newsletter?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
POPI compliance <a href="https://sait.org.za/popii">https://sait.org.za/popii</a>		<input type="checkbox"/> Accept <input type="checkbox"/> Decline	

Signed:

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Date: ..... / .... /2024

Date: ..... / .... /2024

Company: .....

Delegate: .....



## Programme LE 144

### Day 1

- Registration, Coffee & Tea
- Welcome & Introductions
- Homework, Feedback & Study Guide (1)
- Lubrication Terminology (2)
- Fundamentals of Lubrication (3)
- Production & Characteristics of Lubricant Base Oils (4)
- Properties of Base Fluids (5)
- Lubricants Additives & Blending (6)
- Homework Preparation for Next Day Self

### Day 2

- Homework / Quiz
- Specifications (7)
- Grease (8)
- Plain Bearings (9)
- Rolling Element Bearings (10)
- Gears & Couplings (11)
- Hydraulic Systems & Fluids (12)
- Homework Preparation for Next Day Self

### Day 3

- Homework / Quiz
- Internal Combustion Engines (13)
- Auto Driveline (14)
- Compressors (15)
- Fundamentals Insulating Oils (16)
- Metalworking (17)
- Synthetic Lubricants (18)
- Homework Preparation for Next Day Self

### Day 4

- Homework / Quiz
- Filtration (19)
- Condition Monitoring & Oil Analysis (20)
- Condition Monitoring & Oil Analysis (20)
- Coolants (21)
- Seals (22)
- Lubrication Devices (24)
- Storage, handling, environment (26 & 27)
- Assessment failed components (23)
- Homework Preparation for Next Day Self

### Day 5

- Homework / Quiz / revision
- Tea & snacks
- Exam
- Lunch



## CedarWoods of Sandton Hotel • Conference • Restaurant

### Where to find us

120 Western Service Road  
Woodmead, Sandton  
South Africa

Tel: +27 11 804 3777

Fax: +27 11 802 1004

[www.cedarwoods.co.za](http://www.cedarwoods.co.za)

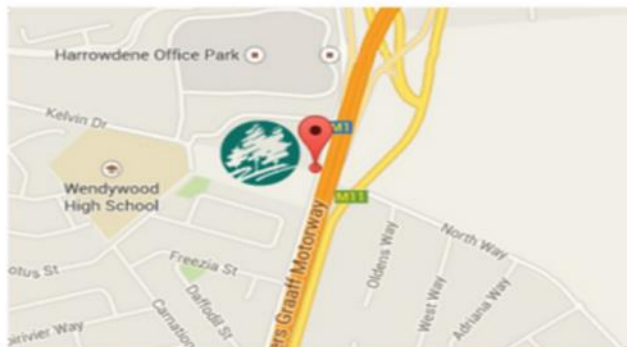
[info@cedarwoods.co.za](mailto:info@cedarwoods.co.za)

P O Box 76299, Wendywood, 2144, South Africa

GPS Location: S26° 4' 4.3" E28° 5' 22.5"

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## DISCLAIMER: TERMS AND CONDITIONS APPLY

- The following terms and conditions govern your participation in the "Lubrication Engineering" training course offered by the Southern African Institute of Tribology (SAIT). By enrolling in this course, you agree to comply with the following terms:
- **Registration:** Completion of the registration process, including payment of the course fees, is required to secure a place in the "Lubrication Engineering" training course.
- **Course Content:** SAIT reserves the right to modify the course content, schedule, or instructors without prior notice. The institute will make reasonable efforts to inform registered delegates of any changes.
- **Cancellation and Refunds:** Delegates must adhere to the cancellation policy outlined by the SAIT. Refunds or credits will be considered and granted at the consideration of the SAIT, which may include administrative fees or deductions. If cancellation is made within 10 days of course commencement R3000 will be invoiced to cover the cost to the venue.
- **Confidentiality:** All course materials, including but not limited to presentations, handouts, and resources provided during the training, are copyrighted and for the registered delegate's personal use only. Sharing, distributing, or reproducing these materials without explicit permission from SAIT is strictly prohibited.
- **Liability:** SAIT will not be held liable for any loss, damage, injury, or inconvenience caused directly or indirectly during the "Lubrication Engineering" training course. Delegates are responsible for their personal belongings and well-being during the course.
- **Certification:** Completion of the course does not guarantee certification. Achievement of certification is subject to fulfilling all course requirements and assessments as specified by SAIT.

By enrolling in the "Lubrication Engineering" training course, you acknowledge that you have read, understood, and agreed to abide by these terms and conditions.