



**APPLIED TECHNOLOGY**  
GROUP OF COMPANIES  
Australia • New Zealand • Hong Kong • Malaysia • Singapore

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## Course On

# COOLING TOWERS – Principles, Operation, Selection, Piping, Pumps, Fans & Maintenance

Date : 25<sup>th</sup> August 2016 (Thursday)  
Time : 9.00 am to 5.00 pm  
Venue : Armada Hotel, Petaling Jaya

## COURSE OVERVIEW

The 1-Day intensive course focuses on :

- The Theoretical and Practical Aspects of Cooling Towers

The course highlights :

- Characteristics of Cooling Tower
- Cooling Tower Construction
- Cooling Tower Ratings & Selection
- Cooling Tower Piping System
- Pumps & Fans for Cooling Towers
- Cooling Tower Maintenance

Work examples & calculations are done to ensure participants would have a better understanding of the operation and application of cooling towers.

## LEARNING OUTCOME/ BENEFITS OF COURSE

This course will provide the participants with the followings benefits:

- Understanding the characteristics of a cooling tower.
- Understanding the significance of fills and drift eliminators in the operation and application of a cooling tower.
- Knowing the cooling tower ratings and selecting the cooling tower appropriately.
- Learning how to select a pipe size for cooling tower piping system.
- Understanding the various pump characteristics, selecting the correct pump type for cooling towers.
- Conducting the proper inspection on cooling towers and developing the maintenance schedule.
- Learning effective maintenance procedures to reduce Legionella risk.

### Special Discount

Early Bird Discount

RM50

*Register for course and pay before 25<sup>th</sup> July 2016*

## SPEAKER PROFILE



**Dr. Ling Foon Fatt**

**Dr. Ling Foon Fatt** has extensive experience in Education, R & D, Training, Consultancy and Manufacturing, having held various posts and positions with the following organizations:

1. Associate Professor, Mechanical Engineering Department, University of Malaya (1981 - 1994).
2. Technical Advisor, OYL Industries Bhd.(1987-1994)
3. Chief Executive Officer, TOPAIRE Sdn. Bhd.(1994-1996)
4. Senior Group General Manager, Top Group Holdings Bhd.
5. Director of a Consulting Engineering Firm.
6. Engineering & Training Advisor, UMJ Air-Conditioning Sdn. Bhd.
7. Member of International Editorial Advisory Board, Journal of Energy, Heat and Mass Transfer.(1988-1994)

Dr. Ling has been the Principal Interviewer for the Examination of Corporate Membership of the Institution of Engineers, Malaysia (1976 - 1983); Chairman, Sub-Committee in Qualification Assessment, The Institution of Engineers, Malaysia (1981- 1983); and The Council Member of the Institution of Engineers, Malaysia (1981/82 - 1983/84).

He was a member of the Steering Committee on Training and Entrepreneur Development, Federation of Malaysia Manufacturers (1992 - 1996).

Dr. Ling has supervised more than 80 engineering thesis projects, and published over 50 technical papers in International and regional journals.

Dr. Ling has conducted over 300 public courses and has written 20 work books.

Over 3000 engineers, managers, executives, supervisors and technicians have successfully attended the public courses conducted by Dr Ling. The participants are from various industries of Manufacturing, Services, Education, Oil & Gas, Construction and Commerce.

Dr. Ling has conducted in-house training for over 30 companies and organizations.

## WHO SHOULD ATTEND

This course is designed for:

- Maintenance Engineers/Managers/Executives
- Consulting Engineers
- Service Engineers
- M&E Contractors
- Building/Complex Owners
- Chargemen & Technical Executives
- Technicians who deal with cooling towers and
- New Engineers

*Claimable under HRDF SBL scheme subject to max limit allowed.*

*6 BEM Approved CPD-Hours (Ref No.: IEM16/PP/050/C), 10 CIDB Approved CCD-Points (Ref No.: CIDBSL/C/2016/0272)*

## COURSE SCHEDULE

### DAY 1

|                       |   |
|-----------------------|---|
| 9.00am - 9.45am       | <b>Session 1: Principles</b> <ul style="list-style-type: none"> <li>• Function of A Cooling Tower</li> <li>• Classification of Cooling Tower</li> <li>• Atmospheric Tower</li> <li>• Mechanical Draft Tower</li> <li>• Counter-flow &amp; Cross-flow</li> <li>• Eliminator</li> <li>• Efficiency</li> <li>• Make-up Water</li> </ul>  |
| 9.45 am - 10.30am     | <b>Session 2: Characteristics of Cooling Tower</b> <ul style="list-style-type: none"> <li>• Range and Approach</li> <li>• Heat-Transfer Process</li> <li>• Capacity of Cooling Tower</li> <li>• Cooling Tower Load</li> <li>• Methods of Calculation</li> <li>• Bleed-off Calculation</li> </ul>                                      |
| 10.30am - 10.45am     | <i>MORNING TEA BREAK</i>  |
| 10.45 am - 11.15am    | <b>Session 3: Cooling Towers Ratings &amp; Selection</b> <ul style="list-style-type: none"> <li>• Manufacturer's Catalogue</li> <li>• Selection Examples</li> </ul>   |
| 11.15 am - 12.30pm    | <b>Session 4: Cooling Tower Piping</b> <ul style="list-style-type: none"> <li>• Friction Losses in Pipe Flow</li> <li>• Pressure Drops</li> <li>• Pipe Sizing</li> <li>• Total Head Calculation</li> <li>• Work Examples</li> </ul>   |
| 12.30pm - 2.00pm      | <i>LUNCH</i>  |
| 2.00pm - 2.45pm       | <b>Session 5: Pumps for Cooling Tower</b> <ul style="list-style-type: none"> <li>• Pump Construction</li> <li>• Pump Characteristics</li> <li>• Pump Curves</li> <li>• Pump Selection &amp; Application</li> <li>• Work Examples</li> </ul>   |
| 2.45pm - 3.30pm       | <b>Session 6: Cooling Tower Fans</b> <ul style="list-style-type: none"> <li>• Types of Fans</li> <li>• Fan Curves</li> <li>• Fan Power Calculation</li> <li>• Fan Drive Mechanism</li> </ul>  |
| 3.30pm - 3.45pm       | <i>TEA BREAK</i>  |
| 3.45pm - 5.00pm       | <b>Session 7: Cooling Tower Maintenance</b> <ul style="list-style-type: none"> <li>• Inspection &amp; Maintenance Schedule</li> <li>• Maintenance to Reduce Legionella Risks</li> <li>• Drift Problem</li> <li>• Sound Problems</li> <li>• Fogging (Cooling Tower Plume)</li> </ul> <p>Reviews, Question &amp; Answer, Conclusion</p> |
| <i>END OF DAY ONE</i> |   |



### COURSE REGISTRATION FORM

**Course title:**  
**COOLING TOWERS – Principles, Operation, Selection, Piping, Pumps, Fans & Maintenance.**

(✓ Please tick)

**25<sup>th</sup> August, 2016 (Thursday)**  
**Petaling Jaya, Armada Hotel**

#### Company Information

|                  |  |
|------------------|--|
| Company:         |  |
| Address:         |  |
| State/ Province: |  |
| Zip/Postal Code: |  |
| Country:         |  |
| Contact Person:  |  |
| Email:           |  |
| Phone:           |  |

#### Attendee Information

|                |  |
|----------------|--|
| Name (1)       |  |
| Job title:     |  |
| E-mail:        |  |
| Mobile/Tel No: |  |
| Name (2)       |  |
| Job title:     |  |
| E-mail:        |  |
| Mobile/Tel No: |  |
| Name (3)       |  |
| Job title:     |  |
| E-mail:        |  |
| Mobile/Tel No: |  |

#### Registration Fee

|   | Fee Before GST (6%) | GST (6%) | TOTAL      |
|---|---------------------|----------|------------|
| <b>Individual Fee</b>                     | RM945               | RM56.70  | RM1,001.70 |
| <b>Group Fee</b><br>(3 or more delegates) | RM895               | RM53.70  | RM948.70   |

**Closing date:** 18<sup>th</sup> August 2016. An early bird discount of RM50 for payment received before 25<sup>th</sup> July 2016.

#### Payment

Payment is to make payable to:  
**Applied Technology Group Sdn Bhd**  
**Public Bank Berhad (Malaysia)**  
Account no: 3178247302  
GST Registration Number: 000641294336

#### Payment terms:

Payment is required before the event. Once payment is received, your seat will be reserved. Registration fee includes lunch, refreshments and full training documentation as specified. Delegates may be refused admission if payment is not received prior to the event. The fee does not include hotel accommodation.

#### Cancellation Policy

All cancellation of registration must be made in writing. If you are unable to attend:  
a) A substitute delegate is welcomed at no additional charge.  
b) Your registration can be credited to a future event.  
c) You will receive a full refund less 10% administration charge if cancellation is received in writing more than 14 days before the event.  
d) No cancellations will be accepted within 14 days before the event start date. Full course documentation will however be sent to the delegate.

#### Course Schedule

Course starts at 9.00am and ends at 5.00pm daily. Please arrive at 8.30am on day one to allow time to register and receive course materials.

#### Please send completed form to:

Fax to: **+603 5637 9945**  
or Email to : [admin@apptechgroups.net](mailto:admin@apptechgroups.net)  
For enquiry, please call: +603 5634 7905  
Or refer to our website [www.apptechgroups.net](http://www.apptechgroups.net)

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