



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

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47500 Subang Jaya, Selangor, Malaysia.  
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## Course On

# Ducting Design & Centrifugal Fans

Date : 19<sup>th</sup> April 2016  
Time : 9.00 am to 5.00 pm  
Venue : Armada Hotel, Petaling Jaya

## COURSE OVERVIEW

This one day short course was designed to present the practical approaches of the design of the ventilation ducting and selection of centrifugal fan. The course will cover from the fundamental mechanics of air flow to the practical duct size design for the various ventilation and air conditioning requirements. It also covers all essential aspects of the centrifugal fan from the performance to the maintenance and trouble shooting. Many practical examples will be used to illustrate clearly the basic principles. Hands on examples will also be given during the short course.

## LEARNING OUTCOME/ BENEFITS OF COURSE

This course will provide the participants with the followings benefits:

- Understanding the characteristics of air flow.
- Understanding the concept of the ducting sizing.
- Learning how to select duct size for ventilation and air conditioning requirements.
- Understanding the various fan characteristics and selecting the correct centrifugal fan.
- Conducting the proper inspection on centrifugal fan and developing the maintenance schedule.
- Learning effective maintenance procedures.

### Special Discount

Early Bird Discount

RM100

*Register for course and pay before 19 March 2016*

# Ducting Design & Centrifugal Fans

## 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 ducting design and centrifugal fans and
- New Engineers

# Ducting Design & Centrifugal Fans

## COURSE SCHEDULE

### DAY 1

9.00am - 9.45am	<b>Session 1: Principles of Flow in Duct</b> <ul style="list-style-type: none"> <li>• Basic Principles of Fluid Mechanics</li> <li>• Air Flow in Ducts</li> <li>• Pressure Losses</li> <li>• Conversion to Rectangular Duct</li> <li>• Minor Losses</li> <li>• Head Losses, Equivalent Length</li> <li>• Work Examples</li> </ul>
9.45am - 10.30am	<b>Session 2: Duct Sizing, Preliminaries</b> <ul style="list-style-type: none"> <li>• Types of Duct</li> <li>• Aspect Ratio</li> <li>• Duct Circuits</li> <li>• Duct Fittings, Statics-Pressure Losses</li> <li>• General Rules for Duct Design</li> <li>• Methods of Duct Sizing</li> <li>• Work Examples</li> </ul>
10.30am - 10.45am	<i>MORNING TEA BREAK</i>
10.45am - 11.30pm	<b>Session 3: Workshop/ Design</b> <ul style="list-style-type: none"> <li>• Duct Sizing Using Equal Friction Method</li> </ul>
11.30am - 12.30pm	<b>Session 4: Applications, Practical Considerations</b> <ul style="list-style-type: none"> <li>• Duct Materials</li> <li>• Standards for Ductwork Fabrication</li> <li>• Duct Transition</li> <li>• Duct Support</li> <li>• Duct Branching</li> <li>• Air Distribution &amp; Comfort</li> <li>• Diffusion</li> <li>• Noise Considerations</li> </ul>
12.30pm - 2.00pm	<i>LUNCH</i>
2.00pm - 3.30pm	<b>Session 5: Fan Performance</b> <ul style="list-style-type: none"> <li>• Difference in Fan, Blower &amp; Compressor Designs</li> <li>• Centrifugal Fans</li> <li>• Fan Power Calculation</li> <li>• Fan Performance Curves</li> <li>• Forward Curved Blade Fans</li> <li>• Backward Curved Blade Fans</li> <li>• Fan Ratings</li> <li>• Fan Laws</li> </ul>
	<b>: Construction &amp; Application</b> <ul style="list-style-type: none"> <li>• Classes of Centrifugal Fan Construction</li> <li>• Losses &amp; Efficiencies</li> <li>• Fans for Air-Conditioning Systems</li> <li>• Comparison of the Various Types of Blades</li> </ul>
3.30pm - 3.45pm	<i>TEA BREAK</i>

# Ducting Design & Centrifugal Fans

## COURSE SCHEDULE

3.45pm - 4.30pm	<b>Session 6: Maintenance, Installation &amp; Trouble Shooting</b> <ul style="list-style-type: none"><li>• Installation &amp; Maintenance of Fans</li><li>• Safety Precautions</li><li>• V-Belt Drive Maintenance</li><li>• Vibration/ Vibration Amplitude</li><li>• Lubrication</li><li>• Fan Inlet &amp; Outlet Connections</li><li>• Foundation &amp; Mounting of Fan</li><li>• Trouble Shooting</li></ul>
4.30pm - 4.45pm	Question and Answer
4.45pm - 5.00pm	Conclusion
<i>END OF DAY ONE</i>	



## COURSE REGISTRATION FORM

**Course title:**  
**Ducting Design & Centrifugal Fans**

(✓ Please tick)

**19<sup>th</sup> April, 2016**

*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

	<b>Fee Before GST (6%)</b>	<b>GST (6%)</b>	<b>TOTAL</b>
<b>Individual Fee</b>	RM1,100	RM66	RM1,166
<b>Group Fee</b> (3 or more delegates)	RM1,000	RM60	RM1,060

**Closing date:** 12 April 2016. An early bird discount of RM100 for payment received before 19 March 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:

A 6% Good and Service Tax (GST) shall be borne by client. Payment is required before the event. Once received your place is automatically 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 accommodations.

### Cancellation Policy

All cancellation of registration must be made in writing.

If you are unable to attend:

- A substitute delegate is welcomed at no additional charge.
- Your registration can be credited to a future event.
- You will receive a full refund less 10% administration charge if cancellation is received in writing more than 14 days before the event.
- 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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