

# Chemical Engineering for Non Chemical Engineers

18 - 22 September 2023

**KLM**

**Technology  
Group**

**ENGINEERING  
PRACTICE**

**IACPE**  
INTERNATIONAL ASSOCIATION OF  
CERTIFIED PRACTICING ENGINEERS

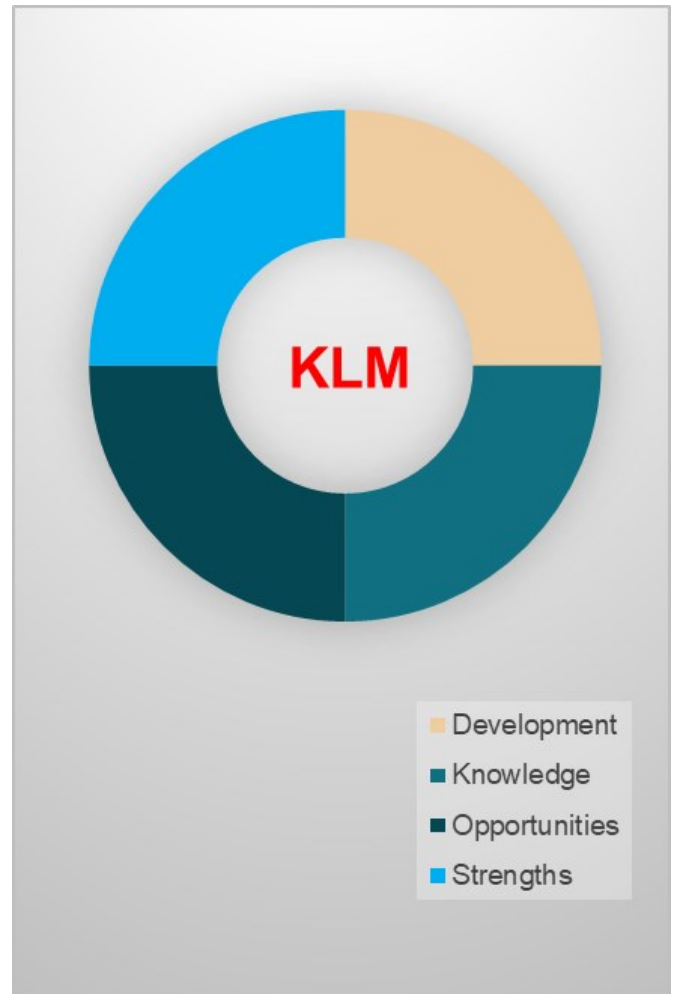
**Engineering Solutions**

[www.klmtechgroup.com](http://www.klmtechgroup.com)

# Introduction

The success of every company depends of each employee's understanding of the key business components. Employee training and development will unlock the companies' profitability and reliability. When people, processes and technology work together as a team developing practical solutions, companies can maximize profitability and assets in a sustainable manner. Training and development is an investment in future success - give yourself and your employees the keys to success.

KLM Technology Group has a team of highly experienced associates in the USA, Malaysia, Indonesia and Singapore, that specializes in the practical application of knowledge. Our team leaders are all degreed engineers and typically have over twenty years of specialized chemical industry experience. Assisting the team leaders are young degreed engineers and practical application specialist with many years of applicable experience.



**Mr. Karl kolmetz**  
**Managing Director**

Karl Kolmetz is a Senior Technical Engineering Professional / Managing Director at KLM Technology Group. He is the Editor for Engineering Practice Magazine and the Handbook of Process Equipment Design. He has authored more than 140 publications on a variety of subjects for product recovery, troubleshooting, training, project management, process design, process safety management and simulation with safety and environmental focus. His research interest focuses on how to apply the fundamentals of engineering to practical applications. The Handbook of Process Equipment Design has over 100 chapters on a variety of process equipment including, line sizing, pumps, compressors, relief valve, lares, separators, distillation and others

# COURSE OVERVIEW

In this seminar you will learn;

1. To interpret flow sheets and process flow diagrams
2. Develop and understand mass and energy balances in process design
3. Learn about fluid flow, pumps and compressors, and mixing
4. Discuss heat transfer equipment and their design, including heat exchangers
5. Understand distillation and separations used in oil and gas processing
6. Discuss waste treatment minimization and treatment
7. Learn how to control processes
8. Perform a basic economic analysis of a project
9. Understand the safety and environmental responsibility of process engineering

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## COURSE OUTLINE

<u>Part One</u>	<u>Part Two</u>
Introduction	Introduction to the Energy and Material Balance
Review of Process Incidents	Introduction to Thermodynamics and Equilibrium
Fundamentals of Chemistry	Introduction to Reaction Engineering
Introduction to Unit Operations Equipment	Introduction to Separation and Mass Transfer Operations
Introduction to Fluid Flow and Mixing	Process Operations and Troubleshooting
Introduction to Process Control and Instrumentation	Introduction to Unit Operations Economics

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## WHAT YOU CAN EXPECT TO GAIN

- An overview of chemical engineering operations, safety, processes and economics
- Become familiar with the equipment of a chemical engineer
- Become familiar with the unit operations of chemical engineering
- Become familiar with margins and economics

# WHO SHOULD ATTEND

- This program has been designed for non-technical professionals assigned to positions in petroleum refineries, corporate offices, suppliers and other interrelated companies.
- The content of the program is based upon the assumption that those in attendance do not have a formal education in engineering and chemistry and do not work in highly technical environments.
- The program should be used for newly-hired refinery plant personnel and may serve as a prerequisite for those who do not have a technical background but who want to attend the more detailed processing program for technical professionals.
- Ideal for veterans and those with only a few years of experience who want to review or broaden their understanding in Processing Plant Operations.
- People who have technical or refinery background should consider attending our alternated program - Introduction to Petroleum Refining Processes and Economics
- Other professionals who desire a better understanding of subject matter

## 2 ½ Day Course

**Part One - 18th, 19th, 20th (Morning)**

**Part Two - 20th (Afternoon), 21st, 22nd**

### Cost per 2 ½ Day Course

- Middle East - USD 1500 per 2 1/2 Days
- Malaysia RM 2000
- Singapore SGD 1000
- Thailand BAHT 15,000
- Indonesia IR 7.5 million



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#### Cancellation & Substitutions

A full refund will be promptly made for all written cancellations 2 weeks before the meeting. 50% refund will be made for written cancellations received 7 days before the meeting. A substitute may be made at any time.

#### Note

A) The organizer has the right to make any amendments that they deem to be in the best interest of the course and to cancel the course if insufficient registrations are received a week before course commencements date.

B) **CERTIFICATE OF ATTENDANCE** will be awarded at the end of the course.