



AL118: Understanding of the Correlation Between Laboratory Results and Refinery Operation

Training Description:

This intensive course covers major components of laboratory techniques and refinery process systems. The aim of this course is to provide participants with a clear picture of refinery condition assessments by developing an understanding of interpretation methods of laboratory results regarding chemical reactions in all refining processes. The course also discusses the measurement uncertainty method which can be helpful in evaluating analysis results and in understanding lab results' deviation limits.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Provide basic understanding of laboratory analyses and techniques applied
- ✓ Provide good knowledge of the chemical reaction in refinery processes
- ✓ Provide a good grasp of the techniques used for interpreting the laboratory results
- ✓ Provide an understanding of the evaluation method to diagnose the condition of the refinery

Training Designed for:

This course is intended for new Chemists, Technicians and Engineers who work in refinery laboratories and operation, process, maintenance and planning sections. The course is also useful for experienced Chemists, Technicians and Engineers who wish to refresh their knowledge.

Training Program:

DAY ONE:

- ❖ PRE-TEST
- ❖ Introduction
- ❖ Petroleum accumulation, drilling and gathering center
- ❖ Refinery facilities: towers, reactors, heat exchangers, valves, heaters, pumps, tanks
- ❖ Composition of petroleum
- ❖ Composition of refined products
- ❖ Laboratory technique and analysis
- ❖ Laboratory measurement uncertainty
- ❖ Process description

DAY TWO:

- ❖ Reaction in reactors
- ❖ Flow description
- ❖ Desalting unit
- ❖ Crude distillation unit
- ❖ H-Oil unit (hydrogen treatment)
- ❖ Vacuum distillation unit
- ❖ Isocracking unit

DAY THREE:

- ❖ Kerosene unifier
- ❖ Light Diesel unifier



- ❖ Diesel unifier
- ❖ Haphtha unifier
- ❖ Catalytic reformer unit
- ❖ Mercaptan oxidation unit
- ❖ Amine unit

DAY FOUR:

- ❖ Sour water treating
- ❖ Hydrogen unit
- ❖ Gas processing unit
- ❖ Acid-gas treating unit
- ❖ Sulfur recovery unit
- ❖ Demineralizer unit
- ❖ Boiler plant

DAY FIVE:

- ❖ Cooling water system
- ❖ API separator
- ❖ Lube oil blending plant
- ❖ Demonstration and evaluation of lab results all units
- ❖ Lab results interpretation
- ❖ Refinery pollution
- ❖ Course Conclusion
- ❖ POST-TEST and EVALUATION

Training Requirements:

“Hands-on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.



Training Fees:

As per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

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|---------------|-------------------------------|
| 07:45 - 08:00 | Morning Coffee / Tea |
| 08:00 - 10:00 | First Session |
| 10:00 - 10:20 | Recess (Coffee/Tea/Snacks) |
| 10:20 - 12:20 | Second Session |
| 12:20 - 13:30 | Recess (Prayer Break & Lunch) |
| 13:30 - 15:00 | Last Session |

For training registrations or in-house enquiries, please contact:

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Training & Career Development Department

