



THE CHEMICAL ENGINEERING MAJOR

Fundamentals of Refinery Catalytic Processes

Website: www.btsconsultant.com

Email: info@btsconsultant.com

Telephone: 00971-2-6452630



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Fundamentals of Refinery Catalytic Processes

Who Should Attend?

People who are making day to day decisions regarding operation, design, Maintenance, and economics of process industry plants.

- An engineer or chemist who must troubleshoot and solve catalyst problems in a plant, an engineering office or laboratory.
- Technical Engineers, Operating Engineers, Process Support Personnel, Chemist, and Managers
- Engineering graduates/technologists who will be using catalyst in their daily work.
- Technical Process engineers doing process design and optimization projects and studies that need who need advanced skills for more complex modeling tasks.
- Plant Operation Support Engineers checking plant performance under different operating conditions, and who are involved in design of new facilities or revamps of existing facilities.
- R&D engineers and researchers using catalyst for process synthesis, upgrade or modifications.
- Ideal for veterans and those with only a few years of experience who want to review or broaden their understanding of process safety.
- Other professionals who desire a better understanding of the subject matter.

Methodology:

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Certificate:

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

Objectives:

- This course will guide the participants to develop key concepts and techniques to operate, select and optimize refinery catalytic processes. These key concepts can be utilized to make design and operating decisions.

Training and development is an investment in future success – give your employees the keys to success. This course covers a general overview of the Catalytic Processes in a Refinery and how each integrates with the high value products, with a special emphasis on Fluidized Catalytic

Crackers, and Catalytic Reformers. A history of each Catalytic Process will be reviewed including; process description, process variables, reaction chemistry, catalyst development and evaluation.

Contents:

Day One:

Introduction

- Refinery Overview
- Chemistry Overview

Alkylation

1. Introduction
2. History
3. Process Overview
4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables
6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary

Hydrogenation

1. Introduction
2. History
3. Process Overview

4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables
6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary

Dehydrogenation

1. 1.Introduction
2. History
3. Process Overview
4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables
6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary

Day Two

Isomerization

1. Introduction
2. History
3. Process Overview
4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables

6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary

Hydrocracking and De-Alkylation

1. Introduction
2. History
3. Process Overview
4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables
6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary

Day Three

Fluidized Catalytic Cracking

1. Introduction
2. History
3. Process Overview
4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables
6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary

Day Four

Hydrodesulfurization

1. Introduction
2. History
3. Process Overview
4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables
6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary

Day Five

Catalytic Reforming

1. Introduction
2. History
3. Process Overview
4. Process Chemistry

Feedstock, Reaction, Catalyst

5. Process Variables
6. Common Problems
7. Advance in Cat Development
8. Catalyst Evaluation Techniques
9. Summary