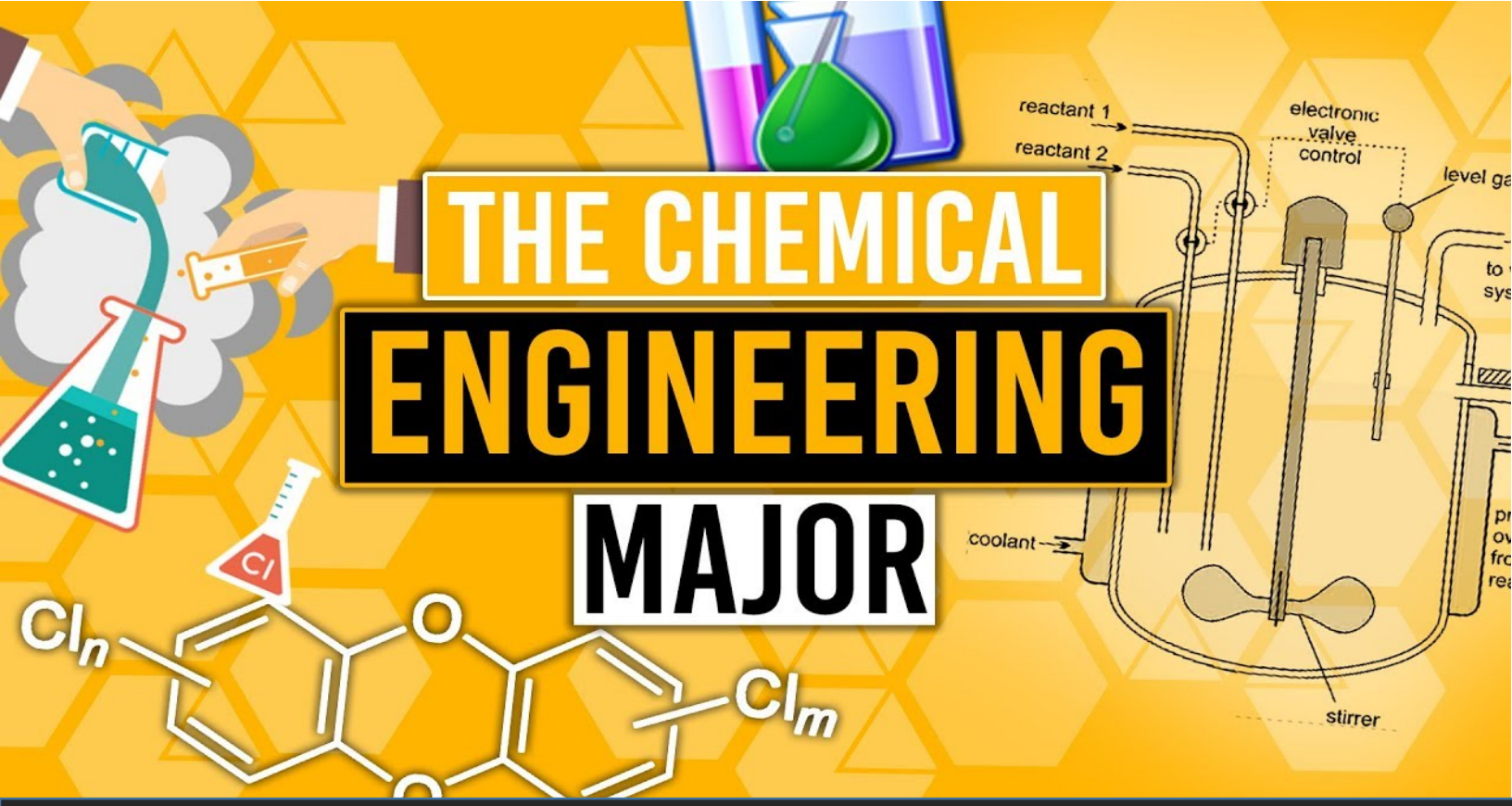

Ammonia Manufacturing & Process Troubleshooting

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Training & Consultancy

Ammonia Manufacturing & Process Troubleshooting

Introduction:

Ammonia is one of the most important inorganic basic chemicals, not only for the manufacture of fertilizers (85%) but also for the production of plastics, fibers, explosives, and intermediates for dyes and pharmaceuticals. It is an essential reaction component for the synthesis of numerous organic chemicals used as solvents and intermediates. This course provides an up-to-date overview of the product properties, synthesis and reaction mechanisms, including catalysis and commercial catalysts, modern production technology for different feedstock's, quality specifications and environmental health and safety aspects, uses and economic data of this important commodity chemical. The course also presents the perspectives of future developments of commercial ammonia production. Chemical engineers, process engineers and chemists in industry, engineering companies, catalyst manufacturers, equipment makers and chemical engineering university departments will certainly profit from this course

Who Should Attend?

The course is designed for engineers, technicians and operators working in the ammonia industry, particularly those who have recently assumed new

responsibilities, to increase their technical knowledge in ammonia production and for experienced engineers to become better acquainted with new technologies in the industry. The course will help to improve the participants' skills and broaden their vision and understanding of the entire industry, including technology, economics, energy, use, safety, and environmental stewardship.

Contents:

Upon the successful completion of this course, participants will be able to:-

- Describe the synthesis reaction and physical properties of ammonia
- Know the process steps of ammonia production and ammonia synthesis
- Identify the complete ammonia production plants, steam reforming ammonia plants and ammonia plants based on partial oxidation
- Know the modernization of older plants (revamping), and also their objectives and revamping options
- Classify the integration of other process into an ammonia plant
- Outline the material considerations for equipment fabrication
- Recognize the storage, shipping and transportation of ammonia
- Become aware of the various quality specifications and analysis of ammonia

- Learn the environmental, safety and health aspects of production and handling ammonia, including its safety, health features and toxicity of ammonia
- Determine the diverse chemical reactions and uses of ammonia
- Identify the different economic aspects capacity and production, feedstock choice, capital demand of ammonia production and other production cost factors for various geographical locations
- Know the future perspectives and other nitrogen fixation methods for the future