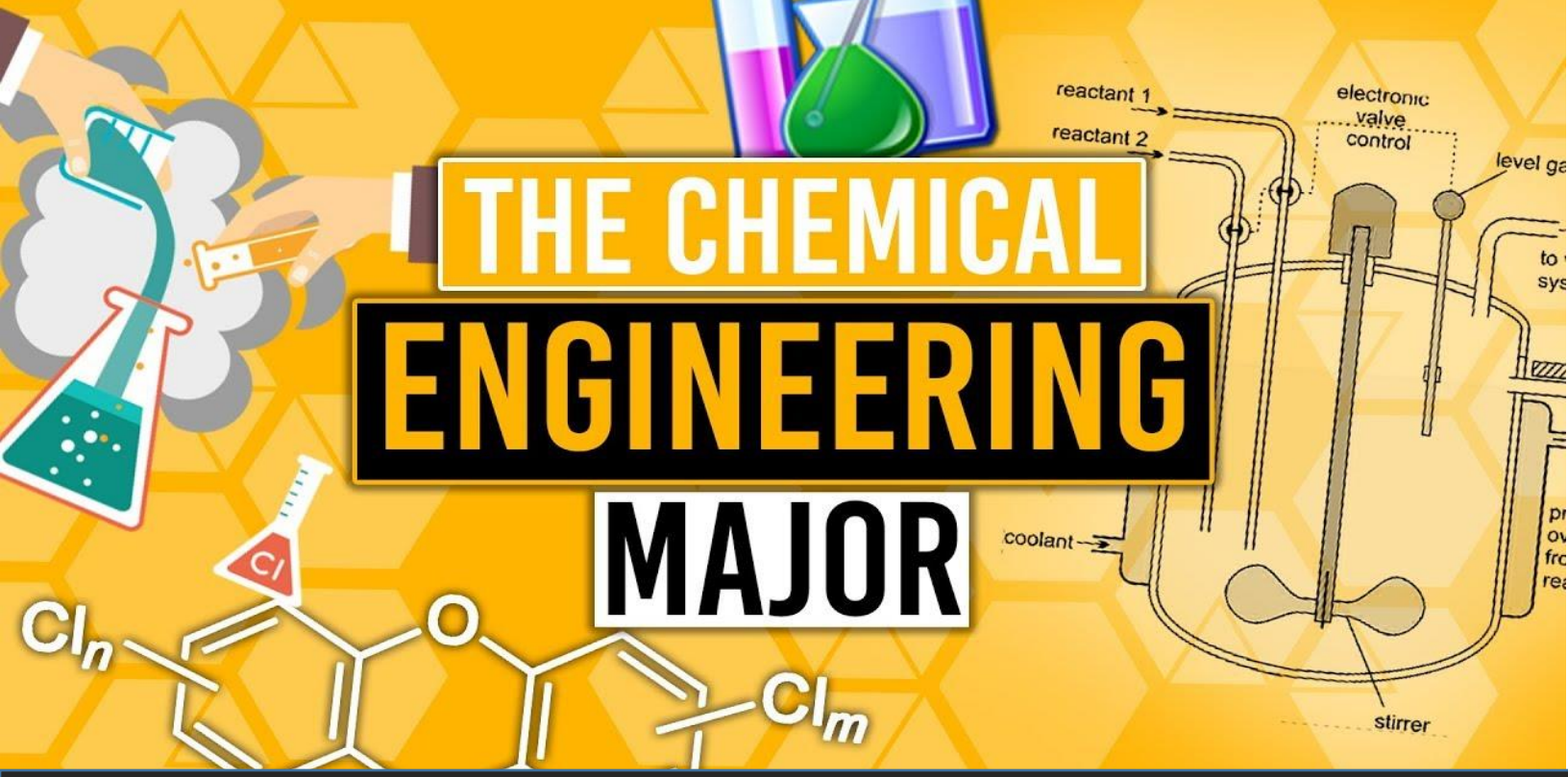

BTS
Training & Consultancy

Standards and Codes in Process Industry

(API, ASME, ASTM, ANSI, AWS, NBIC, ISO, NFPA, NEC & ISA)

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Introduction:

This training course is designed to give a detailed insight to the participants for understanding of ASME and API Codes and Standards with emphasis on the right approach and method for using the codes. It helps the participants to understand the

Code objectives, Code intents, stated and implied requirements (i.e. letter and spirit of the code).It also helps the participants to know the mandatory, recommended and optional stipulations of the code. The course covers an overview of ASME and API codes and standards used in Process Industries for design, inspection, construction and in-service inspection. The course will be delivered in such a way that most of the code concepts will be clarified by both the code statements and the relevant examples. The course also deals in: What is Code and what is standard (the difference between them), Selection of appropriate code and standard for the intended application, where one can take deviations from code etc. The course is designed such that participants with previous background of using the codes will understand the most effective and scientific use of codes for their purpose while the fresher will understand the correct approach and right use of the codes.

Objectives:

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

- To introduce participants to an overview of commonly adopted codes and standards in Oil & Gas, Petrochemical Industries
- To explain to participants the Code objectives, Code intents, and code applications.
- To familiarize participants with the concepts and technical terms of ASME and API Engineering Codes and standards.
- To provide participants a step-by-step approach in the use of these Codes, including the optimization techniques.
- To introduce participants with various design conditions, design rules
- Be able to understand limitations imposed by various codes on material for construction for pressure components
- To familiarize participants with the main In-service inspection codes
- To introduce participants to different ways of inspection, evaluations, and decision making.
- Choose Most cost-effective approach towards making the 3
- 'R' decisions i.e. Repair Rerate, or Replace.
- Assessment of future remaining life, Repair methods as per API codes
- Be able to choose the appropriate inspection tools and inspection intervals
- To trace similarities and differences between various codes

Training Methodology:

This is an interactive course. There will be open question and answer sessions, regular group exercises and activities, videos, case studies and presentations on best practice. Participants will have the opportunity to share with the facilitator and other participants on what works well and not so well for them, as well as work on issues from their own organizations.

Who Should Attend?

Design engineers, Mechanical engineers, and Plant managers, with or without experience in the application of Codes & standards. Design Engineers, Project Engineers, Inspection Engineers, maintenance engineers, and technicians will find this course valuable for them. Inspection, maintenance, and quality assurance personnel who work in the Chemical, Petroleum, Utilities, Petrochemical Plants, Fertilizer Plants, etc, will find it a time-saving means to broaden and update their knowledge of codes and standards.

Course Outline:

- What is Code, Standard and Good Engineering Practice
- Objectives of Codes and Standards
- Assumptions in Codes and Standards
- Information provided by Codes,
- Information not provided by Codes
- Role of engineering judgment
- Code Requirements, Recommendations and options / alternatives
- Code contents, Stated & implied stipulations in the Codes
- Understanding of Various Design and Construction codes internationally adopted
- Codes for Pressure vessels ASME Sec. VIII Div.1
- Codes for Piping installations ASME B 31.3
- Codes for Tanks API 650
- Other ASME codes like ASME Sec.V, ASME Sec. IX, ASME
- Sec.II etc. commonly used in industry.
- Understanding of Various in-service Inspection codes
- Codes for inspection of Pressure vessels API 510
- Codes for inspection of Piping installations API 570
- Codes for inspection of Tanks APIU 653
- Other important API codes like API 579, API 580,Difference
- between the construction codes and in-service inspection
- codes, various codes
- Brief overview of RBI Standard API 580
- Brief overview of Fitness for Service API 579

- Brief overview of Repair standards for vessels and piping
- ASME PCC-2
- What are Standards ?, Difference between codes and standards
- Introduction to Various Standards
- Introduction to ASME B 16.5
- Introduction to ASME B 16.34
- Introduction to ASME B 36.10, 36.19
- Introduction to API 600 & 610
- ASTM material standards