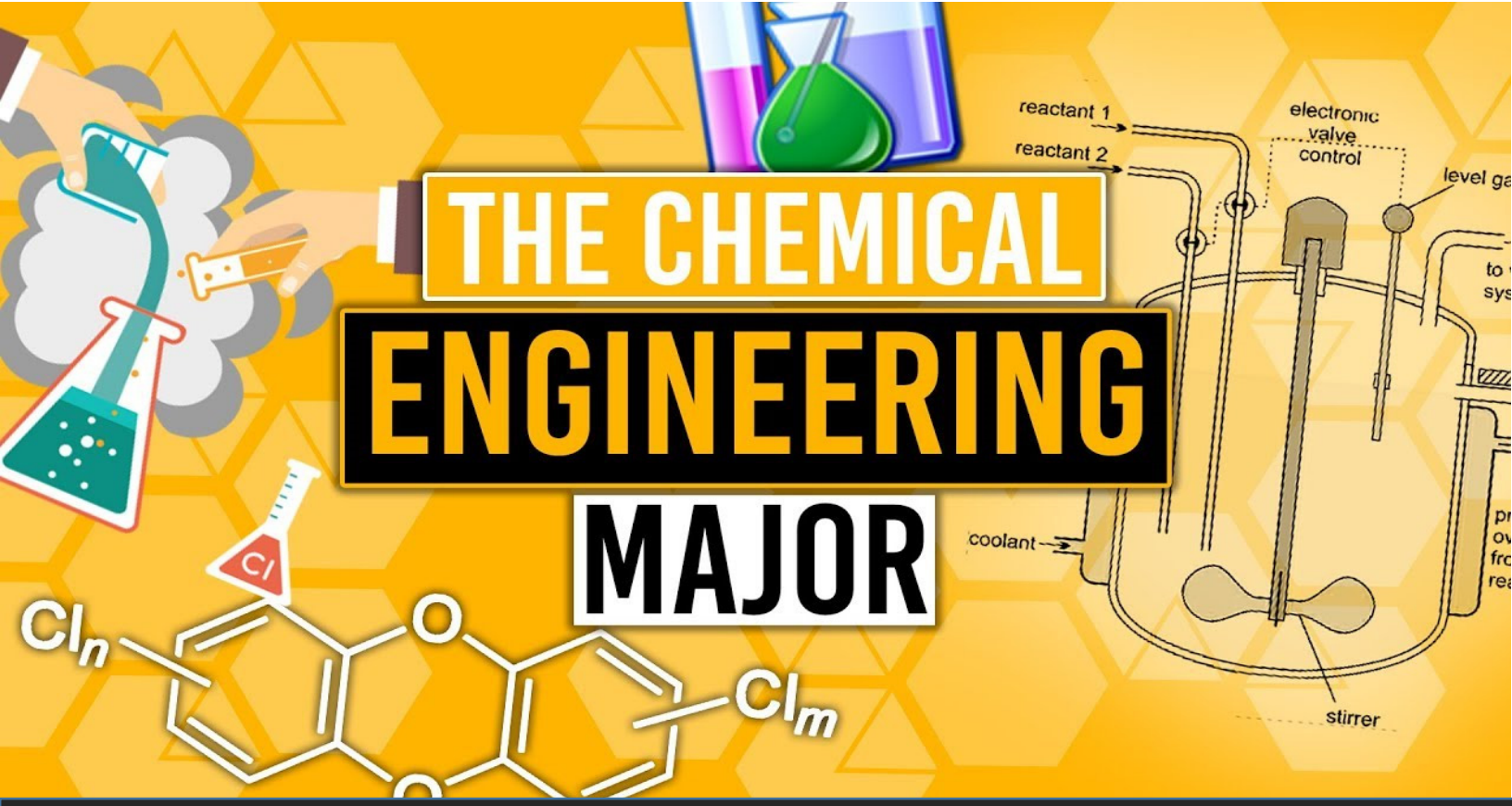

Practical Mineral Processing

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BTS
Training & Consultancy

Practical Mineral Processing

Introduction:

This is a practical course in mineral processing, designed for engineers, technicians, operators, support staff and others working in the mineral processing industry but with no prior training in this area. The course reviews fundamental principles, conventions and terminology, and provides a broad overview of current technical and operating issues and circuit design considerations.

Participants are not expected to become expert practitioners in the field, but to learn enough about the concepts and processes to work effectively with specialists or to manage projects that include metallurgical operations.

The course begins with an overview of the discipline, and describes the various drivers for decision-making in operating plants or in project design. Topics covered include comminution, physical separation, flotation, classification and dewatering. Some basic analytical tools and a wide range of metallurgical terms and constructs are covered.

Key sustainability issues are also examined, including the drive to reduce energy use in crushing and grinding, reduce water usage across all areas of processing, and incorporate recycling technology.

Objectives:

- Introduction to mineral processing.
- Comminution, classification and liberation; influence of size on materials characteristics.
- Mineral separation methods – an overview, including physical separation (gravity, magnetic and electrical); solid/liquid separation; flotation.
- Combining physical separation methods in metallurgical circuits.
- Physical separation circuit design principles and examples.
- Sustainability issues, including energy saving opportunities in mineral processing.

Who Should Attend?

- An engineering (or equivalent) degree or diploma.

- A basic knowledge of mine project development and operation.

Contents:

- Describe the work that metallurgists and mineral processors do.
- Define the key areas of mineral processing and the major drivers for mineral processing.
- Explain the implications of mineralogical characteristics for mineral processing requirements.
- Interpret process grade and recovery information.
- Provide an overview of major classes of equipment and their typical applications and identify commonly used equipment and where it should be used.
- Describe basic flowsheets for physical separation processes in various industries, including mineral sands, coal, iron ore and base metals processing.
- Identify key sustainability issues in mineral processing and explain their impact on mineral processing decision-making.