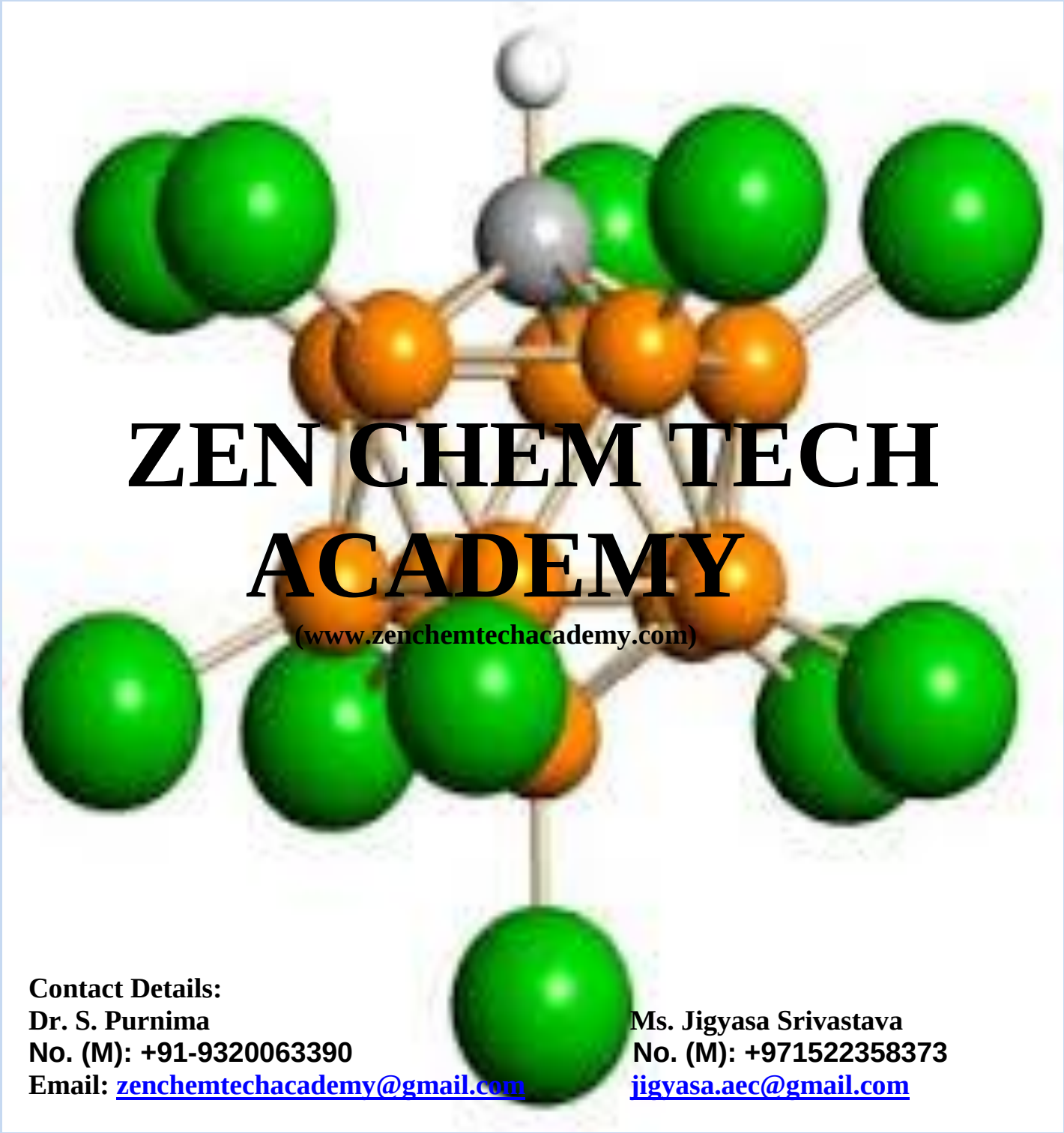

ZEN CHEM TECH ACADEMY

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OUTLINE & DETAILS OF CERTIFICATE COURSE FOR CHEMICAL ENGINEERS

Objective:

- To learn the basic concepts required to model and analyze steady state processes using **UniSim Design. Honeywell Software**.
- This course serves as a prerequisite for many of the advanced courses**.**

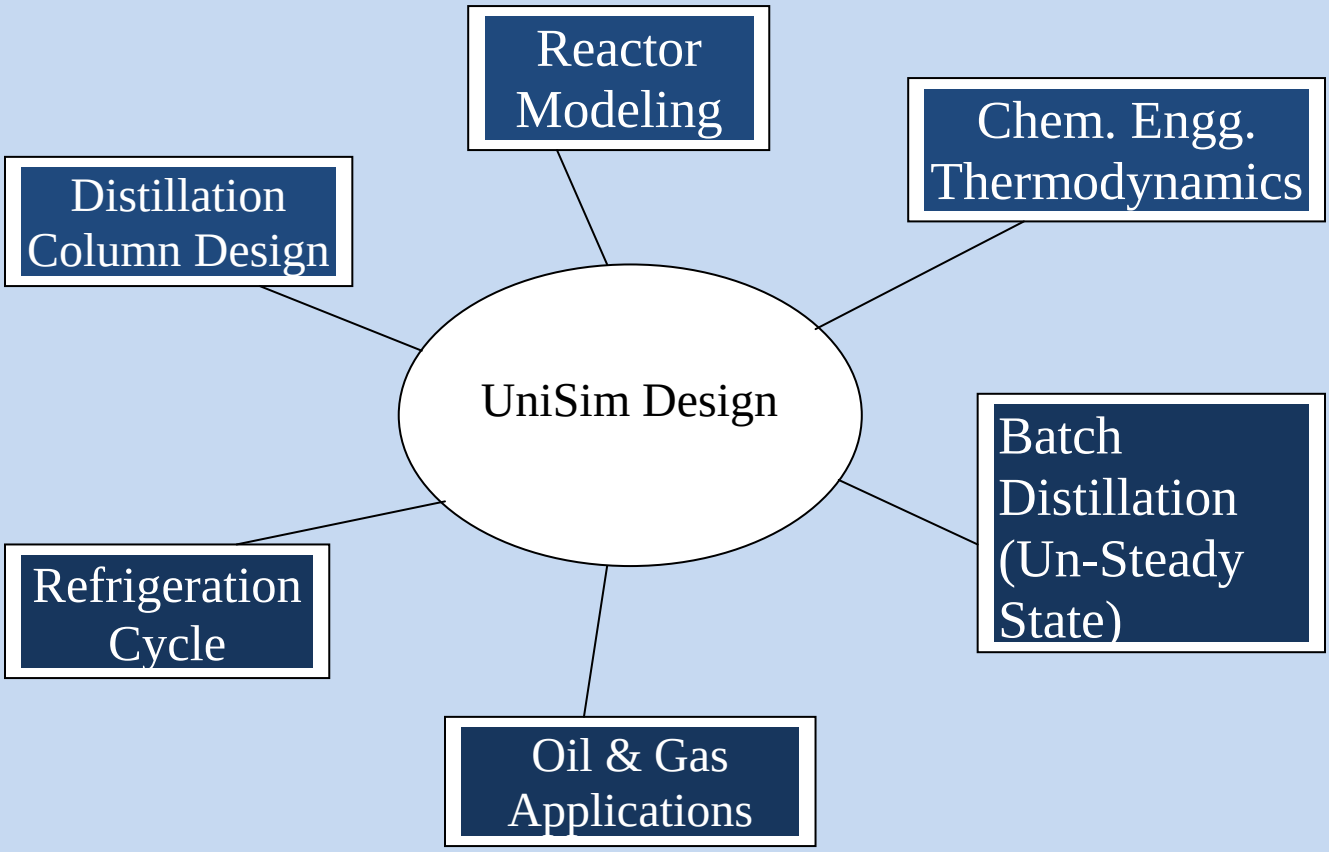
Course Benefits:

- Gain practical skills and knowledge to begin modelling new and existing processes and trouble-shoot flowsheet simulations.
- Reduce process design time by testing various plant configurations and determine optimal process conditions to improve current processes.

Who Should Attend?

- Engineers new to steady state simulation who need basic training to get started with modelling their plant processes.
- Engineers who wish to improve their ability to simulate more difficult distillation processes.
- Engineers involved with the design of shell and tube heat exchangers and process vessels.
- Engineers and consultants involved in the new design and retrofit of processes for improved energy efficiency, and optimization of process.

OUTLINE & DETAILS OF CERTIFICATE COURSE FOR CHEMICAL ENGINEERS



Final year project support using the software (Optional)

We will develop simulation model for relevant projects which may include unit operation with input and output Material & Energy Balance, within limitations & capacity of software data package. We will provide CD of the simulation Report.

OUTLINE & DETAILS OF CERTIFICATE COURSE FOR CHEMICAL ENGINEERS

Module I: - Basic Course (40 hrs)

- General Simulation Concepts
- General Structure of UniSim Design Simulator
- Introduction to Graphical User Interface
- Unit Operation Model Overview
- Selection of Appropriate models for Simulations
- Required Basic Inputs for Simulation
- Developing Flow sheet in UniSim Design Simulator
- Workshops on Benzene Flash
- Workshop on Propane refrigeration cycle
- Overview of Thermodynamic Models
- Thermodynamic equilibrium concept
- Gibbs free energy, equilibrium, equilibrium constants, phase changes
- General expressions for fugacity, enthalpy, entropy, heat capacity
- Review of thermodynamic models normally encountered in process simulators
- Comprehensive Physical Property Workshop on Oil and Gas separator.
- Workshop on Methanol Water separation along with sizing
- Workshop on NGL Fractionation train
- Workshop on Cumene and Cyclohexane Production.
- Case studies to understand what-if analysis.
- Condensate stabilizer

Module II: - Advance Course (20 hrs)

- Refinery Modeling: CDU setup & Simulation with various cuts like naphtha, kerosene, diesel, AGO and product maximizing product output
- Synthesis Gas Simulation
- Project assignment
- Question answer session and Feedback

Other benefits:

- Free CV writing
- Interview tips / Mock interviews with seniors and experts