GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering

Subject Code : 3184401

Semester : VIII

Subject Name : Internship/Project

WEF Academic Year:	2024-25
Semester:	VIII
Category of the Course:	**Professional Core course**

Prerequisite :	Material and Energy Balance, Basics of Chemical Engineering, Chemical reaction Engineering, Mass Transfer, Heat Transfer, Fluid Flow Operations, Unit Operations, and Process Control
Rationale :	Incorporating in-plant training is essential for bolstering the employability skills of students in the field of Chemical Engineering. This training offers hands-on experience and reinforces the theoretical understanding acquired through various courses, enabling students to tackle real-world challenges effectively. It empowers students to delve into cutting-edge technologies and advancements, potentially paving the way for self-employment opportunities or the creation of job opportunities.

Course Scheme:

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
				Theory		Practical		
L	T	P	C	ESE (E)	PA(M)	ESE (V)	PA (I)	
0	0	24	12	0	0	100	100	200

General Guidelines for In-plant Training

Content:

During 8th semester of Chemical Engineering, every student of chemical engineering branch will have to undergo in-plant training. The in-plant training would be of 12 credits. The in-plant training would be assigned to the students with the approval of head, chemical engineering department. The total duration of the in-plant training would be for a period equal to the 12 calendar weeks. The duration will be divided into 2 phases of equal duration (6 weeks / phase). A student can complete the entire 12 weeks duration in a single organization or can take in two

different organizations for each of the phase. The in-plant training could be of the following forms:

1. In-plant training in a company (Within state or out state) involved in R&D / Process design / manufacturing (QA / QC / Plant engineering / Production / Consultancy / Technical services / Engineering Projects)

2. At the end of 1st phase and 2nd Phase of in-plant training, each student needs to submit written report based on the work carried out during in-plant training with weekly diary. The report and weekly diary will be counter signed by the supervisor / in charge of company.

3. During 1st & 2nd phase of in-plan training, faculty from the institute need to visit the specific organization / industry to have the update regarding the progress of the student from the industry representative as well as to have interaction with the industry representative.

4. The performance of the student will be assessed based on the written report, weekly diary & a presentation to the committee consisting of two expert faculty members assigned from the University.

5. Generalized points need to be taken care by the students during the report preparation of in-plant training are:

- Company Profile, List of Raw Materials/Products, etc. of the industry & production capacity ¬ P & I Diagram, Process Flow Diagram
- Chemical Reactions involved, Unit Operation & Processes Involved ¬ Energy & Material Balance Calculations
- Process & Mechanical design of at least one equipment (Reactor / Storage Tank / Heat Exchanging Devices / Distillation Column / Absorber / stripper / Cooling Tower, etc.)
- Treatment & handling of various waste materials which may include liquid effluent handling, air pollution control measures and solid waste handling and disposal.
- Safety measures of the plant site: Process safety, PPEs, color coding & Symbols, types of permits, Fire Extinguishers, etc.

6. Students will be assigned a grade based on the written report, weekly diary & a presentation evaluated by the committee of the expert faculty members.

After Completion of the Course, Student will able to :

No	Course Outcomes	RBT Level*
CO-1	Identify unit process and unit operations, their correlation and implementation for the manufacturing unit.	20%
CO-2	Evaluate the P & I diagram; control system implemented and uses it for trouble shooting purpose.	30%
CO-3	Design process equipment and propose appropriate modification/better control action/optimized operational methods including flow sequences to enhance the economic output.	30%
CO-4	Determine the best waste minimization; enhance process safety, personal safety, health and hygiene.	20%

*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create

Reference

AICTE Model curriculum

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