GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering
Subject code: 3183901
Semester – VIII
Subject Name: Internship/ Project

Type of course: Professional core course

Prerequisite: Nanotechnology courses

Rationale: To enhance employability skills of the students In-plant Training is required. It provides practical exposure in a field of Nanotechnology Engineering and help to reinforce theoretical knowledge gained in different courses to solve real life challenges. The students are given exposure to explore the new technology and developments, which can lead them to self-employment or even employment generation.

Teaching and Examination Scheme:

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

The following guidelines are required to be followed for the in-plant training …
Content:

During 8th semester of Nanotechnology Engineering, every student of Nanotechnology 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, Nanotechnology engineering department.
The total duration of the in-plant training would be for a period equal to the 16 calendar weeks. The duration will be divided into 2 phases of equal duration (8 weeks / phase).
A student can complete the entire 16 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.

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

Distribution of Marks					
R Level	U Level	A Level	N Level	E Level	C Level
5	10	30	30	10	15

Course Outcomes:

Sr. No.	**CO statement**	**Marks % weightage**
	At the end of this course, student will be able to	
CO-1	identify unit process and unit operations, their correlation and implementation for the manufacturing unit.	20%
CO-2	evluate the P & I diagram; control system implemented and use it for trouble shooting purpose.	30%
CO-3	design a 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%

Reference:

- AICTE Model curriculum
- AICTE Internship Policy: https://www.aicte-india.org/sites/default/files/AICTE%20Internship%20Policy.pdf