

**Title:** Industrial Safety and General Awareness

**Eligibility:** Bachelor's degree in any Faculty

**Objectives:** To create understanding of **Industrial Safety**

To create **General Awareness** of **Industrial Safety**

To create manpower related to **Industrial Safety**

**Course Structure:** The course is equivalent to 4 credits . The course can be run in any of the semesters.

**Syllabus:**

	<b>Practical Competencies</b>	<b>Theory</b>	<b>Hours</b>
1.	To study the importance of personal protective equipments such as Gumboot, Helmet, Gloves, Aprons, Ear plugs, nose mask etc. in chemical plant	<ul style="list-style-type: none"><li>❖ Importance of safety and general precautions</li><li>❖ to be observed in the chemical plant.</li><li>❖ Personal safety and use of personal protective equipments.</li><li>❖ Good housekeeping.</li></ul>	10
2.	To study the different types of fire extinguisher. Selection of fire extinguisher to put off different types of fires in chemical plant. To study fire detection system, alarms, smoke detector, heat detector and flame detector.	<ul style="list-style-type: none"><li>❖ Fire prevention and fire fighting equipments .</li></ul>	10
3.	Identification of hazardous and toxic Chemicals/gases. Handling of gases/cylinders colour codes/regulators Fume hoods	<ul style="list-style-type: none"><li>❖ Properties of hazardous and toxic chemicals and safe handling procedures</li><li>❖ Cause and prevention of accidents, first aid.</li></ul>	10
4.	Study of materials/chemicals safety data sheet of handling of various chemicals. Disposal of waste chemicals	<ul style="list-style-type: none"><li>❖ Materials safety data sheets (MSDs), material handling.</li></ul>	10

5.	Study of flow sheets of manufacturing of chemicals by using audio-visual aids for familiarization with pumps, valves, pipes, heat exchanger, etc. and plant utilities.	General introduction of Chemical Plant, raw materials, intermediates and final products. Introduction of different pumps, pipes, valves, vessels, heat exchanges, dryers, evaporator, filtration unit etc.	10
6.	General Awareness about length, width, height, area, volume, pressure, flow, temperature, level, pH density, viscosity, current, specific gravity, Elements, formula of chemicals, gases, compounds, mixture, types of reactions & metals, non metals, metalloids, alloy	Familiarization with plant utilities and service lines such as – steam, water, vacuum, compressed air, fuel line, refrigeration and air conditioning.	10

**Methodology:** Lectures supplemented with case studies that may include visits.

**Assessment:** Final assessment by written and group discussion. Skill based assessment will be as per the case study.

