



राजस्थान आई.एल.डी. कौशल विश्वविद्यालय  
**RAJASTHAN ILD SKILLS UNIVERSITY**

## **FACULTY OF SECURITY AND SURVEILLANCE**

**NSQF LEVEL SCHEME**

**SECTOR : FIRE AND SAFETY**

**PROGRAMME**

**B. VOC. IN FIRE TECHNOLOGY AND INDUSTRIAL  
SAFETY MANAGEMENT**

**NSQF LEVEL 5**

**REGULATION**

**SEMESTER 2<sup>ND</sup>**

## **Semester Wise-Syllabus**

### **Skill Components (Theory & Practical)**

## Course Name : B. Voc. in Fire Technology and Industrial Safety Management

Semester 2<sup>nd</sup>

## Skill Component

Code	Subject Type	Subject	Credits				Eose (Hrs.)		
			Theory	Practical	Self/Industry/Project	Total Credits	T	P	S
<b>Skill Component (Location : Institute)</b>									
	SC	Safety Management	2	1	0	3	3	1	0
	SC	Safety Engineering	2	1	0	3	3	2	0
	SC	Safety Control Procedure & Legislation	2	1	0	3	3	3	0
	SC	Occupational Health & Safety	2	1	0	3	3	1	0
<b>(OJT)/Qualification Packs) Location: Industry Partner)</b>									
Internship/OJT/ Drill Practical			0	0	6	6	0	0	0
<b>TOTAL</b>			<b>6</b>	<b>6</b>	<b>6</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Skill Subjects

## Skill Component -I : Safety Management

Component	Unit (Module)	Subunit (Session)	Learning objective	Durati on in hour	Credit
Theory	Plant Safety Inspection	(1) Introduction, (2) Types of Safety Inspection. (3) Safety Audit, (4) Plant safety Inspection	<i>Safety training</i> programmes, and improved enforcement of in-house <i>safety</i> rules.	5	3
Theory	Safety Performance Measurement	(1) Frequency Rate and Severity Rate. (2) Incidence Rate. (3) Safe T Score, (4) Safety and Government Role	Effective safety management requires a thorough understanding and sound management of your system and processes.	10	
Theory	Work Permit	(1) Introduction, (2) Significance of Safety documentation and work permit, (3) Limited Work Permit (LWP), (4) Safety Tag System.	Work Permit System are to exercise control over the maintenance, repair and construction activities by assigning responsibilities, ensuring clear cut communication between interested functions & safety considerations to the job, its hazards & the precautions required.	15	
Theory	Emergency Response Plan	(1) On site Emergency Management Plan, (2) Off site Emergency Management Plan	<i>Emergency Management Program</i> is designed to: Describe the four phases of <i>emergency management</i> and the role each of them plays in managing and mitigating a <i>disaster</i> . Have the graduate be an affective member of the incident command team at a <i>disaster</i> or crisis.	05	
Theory	Risk Analysis and Risk Management	(1) Risk analysis, (2) Risk Assessment Concepts, (3) Identification of Risks, (4) Hazard control, (5) Process Safety Management	Develop a basic understanding of how to conduct and evaluate an uncertainty <i>analysis</i> for a <i>risk assessment</i> . <i>Risk analysis</i> is broadly defined to include <i>risk assessment</i> ,	10	

## Skill subject II: Safety Engineering

Component	Unit (Module)	Subunit (Session)	Learning objective	Duration in hour	Credit
Theory	Safety Analysis	(1) Hazard Evaluation Techniques, (2) Hazop Study, (3) Fault tree analysis, (4) Event tree Analysis, (5) Relative ranking techniques.	Analysis hazard evaluation and risk analysis exercise.	5	3
Theory Demonstration & Practical	Eclectical Safety	(1) Safety in use of Electricity, (2) Dangers from Electricity, (3) Overload and Short circuit protection, (4) Earth fault protection (5) Static electricity, (6) Points to be checked at the electrical system.	<i>Electrical Safety Training.</i> Identify the hazards associated with <i>electricity</i> : shock and fire. Explain how <i>electricity</i> works regarding hazards on the job. Describe basic <i>safety</i> controls and practices at work. Identify and explain how to respond to <i>electrical</i> emergencies.	10	
Theory	Work Place Safety	(1) Illumination, (2) Ventilation & Heat Control, (3) Noise Control, (4) Vibration	Identify the importance of lighting, ventilation, work related stress and its measurement.	10	
Theory Demonstration & Practical	Personal Safety	(1) Introduction, (2) PPE ( Personal Protective Equipment, (3) Protective Clothing	Select and use PPE, its care and maintenance.	10	
Theory Demonstration & Practical	Workshop Safety	(1) Hand tools and power tools, (2) Safety while using Grinding stone, (3) Welding and gas cutting Safety, (4) Lubrication Safety, (5) Housekeeping – Need, Importance and Methods	-do-	10	

**Skill subject III: Safety Control Procedure and Legislation**

Component	Unit (Module)	Subunit (Session)	Learning objective	Duration in hour	Credit
Theory	Overview of Safety	(1) Fundamental of Safety, (2) Principle for Accident Prevention, (3) Management Responsibility in Safety, (4) Classification of Accidents, (5) Causes of Accident	Analyze the concept of accident caused and prevention, accident investigation, analysis and safety management	10	3
Theory	Motivation to Safety - I	(1) Safety Organization, (2) Safety Policy, (3) Safety Committee	Plant and execute Safety department	05	
Theory	Motivation to Safety - II	(1) Safety Programme, (2) Safety Education & Training, (3) Promoting Employee's Participation	Proper Training and Improve in safety programme.	10	
Theory	Legislative Aspects of Safety	(1) Factory Act 1948, (2) Indian Boiler Act 1923, (3) Explosives Act 1884, (4) Petroleum Act 1934, (5) Electricity Act 2003.	Select & apply Provisions related to safety, health and welfare in respect of factory Act-1948	10	
Theory	Labour Welfare Legislation	(1) Workman Compensation act –1923, (2) Employees State Insurance Act -1948, (3) Fatal Accident Act - 1855, (4) Maternity Benefit Act – 1961	-do-	10	

**Skill subject IV: Occupational Health and Safety**

Component	Unit (Module)	Subunit (Session)	Learning objective	Duration in hour	Credit
Theory	<b>Occupational Hazards and There Safety</b>	(1) Introduction, (2) Occupational Health & Risks, (3) Common Occupational Diseases, (4) Prevention of Diseases	Identify occupational hazard associated with different dangerous chemicals.	10	3
Theory	<b>Occupational Health and Safety Management System</b>	(1) Introduction, (2) OH & S Policy, (3) Planning, (4) Implementation and Operation, (5) OHSAS Standard	Apply provisions related to safety and the policies	10	
Theory	<b>Occupational Health and Industrial Hygiene</b>	(1) Introduction, (2) Hazard Identification, (3) Medical Surveillance, (4) Medical Facilities, (5) Industrial Quality of Working Life and Quality Circles	Identify occupational hazard associated with different dangerous chemicals, dust, gases, mist etc.to plan and execute rescue operations in these cases	10	
Theory	<b>Important Ingredients of Health</b>	(1) Introduction, (2) Importance of Food, (3) Essential Constituents of Food, (4) Principal Systems of Body, (5) Importance of Exercise, (6) Tips for Happiness	Identify occupational hazard associated with different Constituents of food.	05	
Theory	<b>Safety Health and Environment System</b>	(1) Need for Integration of Safety, Health & Environment, (2) Ensuring Participation of Employees in Developing SHE Policy, (3) Important Points for Consideration for Safety, (4) General Instruction for Safety, (5) Creating Awareness about process Safety	Select and apply instruction of safety, health and environment in plant.	10	

**Objective:- To Train an individual in handling Fire-Safety Equipment and Enable him/her to function as a Safety Steward , Safety Supervisor or etc.**

**Suggested books:-**

1. Industrial Safety Management – M.K. Tarafdar, K.J. Tarafdar
2. Industrial Safety, Health and Environment Management System – R.K. Jain, Sunil S. Rao
3. Labor Laws - Dr. Ganga Sahay Sharma
4. Introduction to safety- Phil Hughes, Ferett.